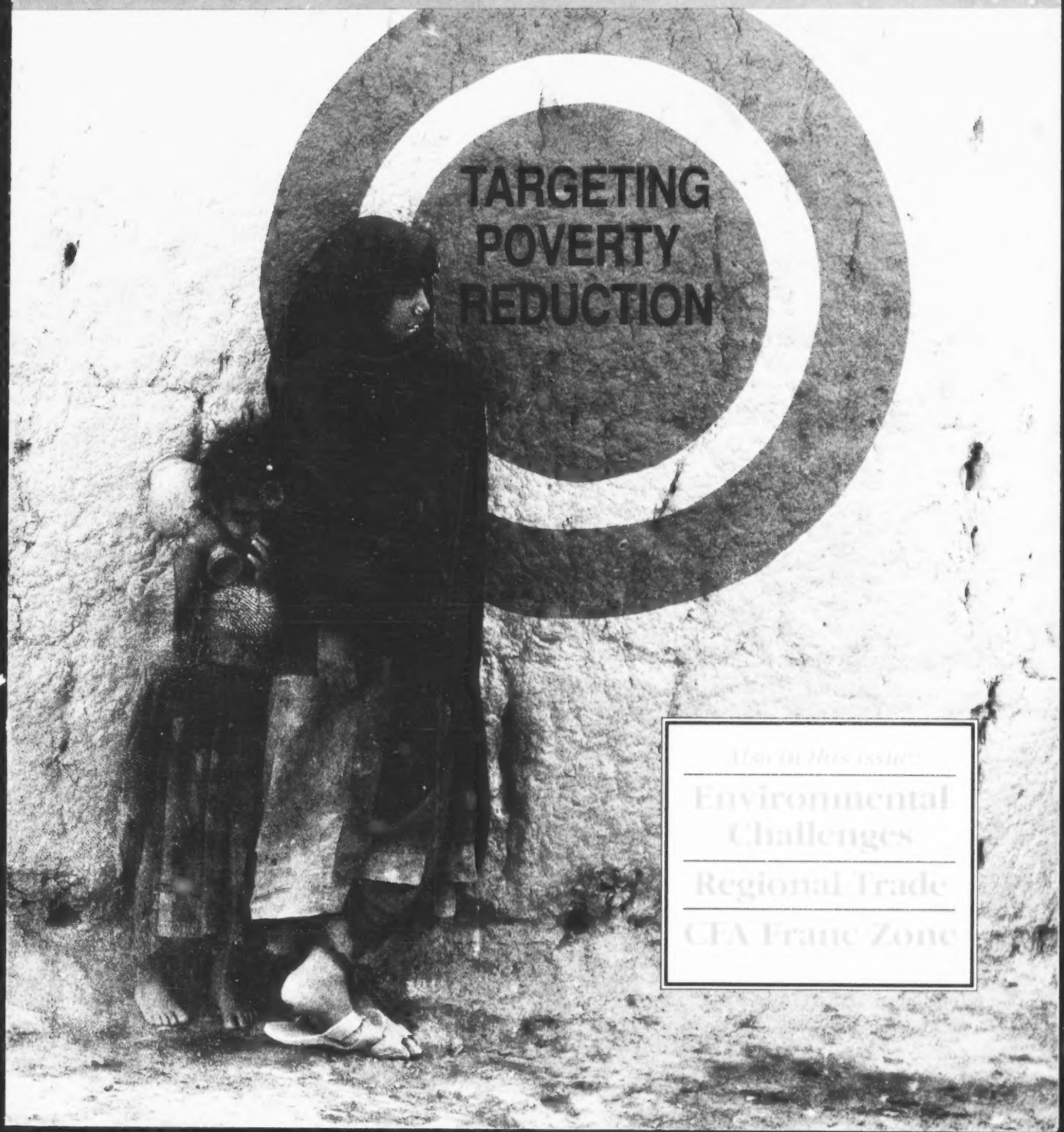
DECEMBER 1992

FINANCE & DEVELOPMENT

A QUARTERLY PUBLICATION OF THE INTERNATIONAL MONETARY FUND AND THE WORLD BANK



In this issue

Environmental Challenges

Regional Trade

CFA Franc Zone

FINANCE & DEVELOPMENT is published quarterly in English, Arabic, Chinese, French, German, Portuguese, and Spanish by the International Monetary Fund and the International Bank for Reconstruction and Development, Washington, DC 20431, USA.

Opinions expressed in articles and other materials are those of the authors; they do not necessarily reflect Fund or Bank policy.

Second class postage is paid at Washington, DC and at additional mailing offices. English edition printed at Lancaster Press, Lancaster, PA. Postmaster: please send change of address to *Finance & Development*, 700 19th Street, NW, Washington, DC 20431. English edition ISSN 0015-1947.
Telephone: (202) 623-8300 • Fax Number: (202) 623-4738.

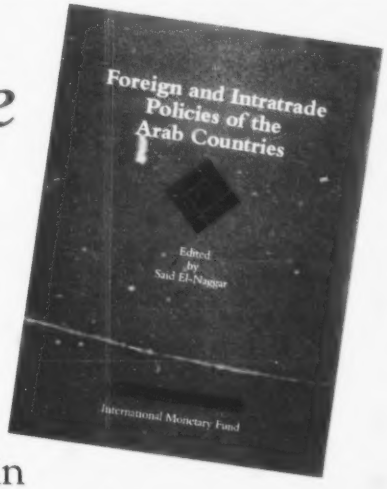
Pamela Bradley
EDITOR
Laura Wallace
ASSISTANT EDITOR
Gita Bhatt
EDITORIAL OFFICER
Luisa Watson
ART EDITOR
Martha Bonilla
EDITORIAL ASSISTANT
June Lavin
ADMINISTRATIVE ASSISTANT
Jessie Hamilton
CIRCULATION ASSISTANT

ADVISORS TO THE EDITOR
Masood Ahmed
Nancy Birdsall
Peter Clark
K. Burke Dillon
Richard Hemming
Pierre Landell-Mills
Anthony Lanyi
Johannes Linn
Gobind Nankani
Orlando Roncesvalles
Joanne Salop

New from the International Monetary Fund

Foreign and Intratrade Policies of the Arab Countries

edited by Said El-Naggar



The challenge facing the Arab countries to maintain economic growth in the face of the deteriorating terms of trade affecting all developing countries was addressed in a seminar held in Abu Dhabi in early 1992. This volume includes papers by contributors from the region as well as from the IMF.

Available in English. 257 pp. (paper) US$18.50 ISBN 1-55775-305-9 **Stock #FITPEA**

To order, please write or call:
International Monetary Fund
Publication Services
Box FD-204 700 19th Street, N.W.
Washington, D.C. 20431 U.S.A.

Telephone: (202) 623-7430
Telefax: (202) 623-7201
Cable Address: INTERFUND
American Express, MasterCard, and VISA credit cards accepted.

December 1992 • Volume 29 • Number 4

FINANCE & DEVELOPMENT

A QUARTERLY PUBLICATION OF THE INTERNATIONAL MONETARY FUND AND THE WORLD BANK

Reducing Poverty: Spreading the Word	*Joanne Salop*	2
Family Planning: The Unfinished Revolution	*Rodolfo Bulatao*	5
Population Patterns: Components of Change		9
Unorthodox Adjustment and Poverty in Peru	*Paul Glewwe & Gillette Hall*	10
Women's Employment and Pay in Latin America	*George Psacharopoulos & Carolyn Winter*	14
Poverty and Water Supply: How to Move Forward	*John Briscoe*	16
The Environment **Combatting the "Greenhouse Effect"**	*Bjorn Larsen & Anwar Shah*	20
Guest Article **The Business of Sustainable Development**	*Stephan Schmidheiny*	24
Attacking Air Pollution in Mexico City	*Gunnar Eskeland*	28
Crisis, Recovery, and Transformation in India	*Ranjit Teja*	31
The CFA Franc: Zone of Fragile Stability in Africa	*James Boughton*	34
The New Regionalism	*Jaime de Melo & Arvind Panagariya*	37
Liberalizing the Capital Account	*Donald Mathieson & Liliana Rojas-Suarez*	41
Striving for Currency Convertibility in North Africa	*Saleh Nsouli, Peter Cornelius, & Andreas Georgiou*	44

Books

Changing Fortunes by Paul Volcker and Toyoo Gyohten	*Charles Dallara*	48
The Nature of Development by Roger Stone	*Bahram Nowzad*	49
Geography and Trade by Paul Krugman	*William Easterly*	50
Productivity and Growth in Indian Manufacturing by Isher Judge Ahluwalia	*Ashok Lahiri*	50
Economic Stabilization and Debt in Developing Countries by Richard Cooper	*Richard Haas*	51
Macroeconomic Policy in Britain: 1974-87 by A.J.C. Britton	*Hugh Bredenkamp*	52
Books in Brief		52
Letters		53

The Editor welcomes views and comments from readers on the contents of the journal. The contents of Finance & Development *may be quoted or reproduced without further permission. Due acknowledgement is requested.*

READEX FICHE

Reducing Poverty: Spreading the Word

JOANNE SALOP

In keeping with its renewed emphasis on helping the poor escape from poverty, the World Bank has recently issued two publications aimed at disseminating information about policies and practices that work best. The message is clear: Countries should invest in basic social services, promote efficient and sustainable growth, and eliminate policy distortions that prejudice the poor's interests.

Reflecting the progression of development thinking and the lessons of experience, the World Bank's approach to poverty reduction has evolved over time. During the 1970s, the Bank's focus on economic growth expanded to include first, *redistribution with growth,* and then, satisfaction of *basic human needs. World Development Report (WDR) 1980* stressed that increasing incomes and reducing poverty would also require investments in human resources. In keeping with the Bank's project orientation throughout this period, investment projects were the main development instruments under consideration. Then, during the 1980s, the focus on adjustment highlighted the importance of macroeconomic policies for growth; it provided evidence that such policies also matter for poverty—and for poverty reduction.

World Development Report 1990 pursued the connection between policies and poverty. Based on cross-country analysis, it concluded that the countries that had been most successful in reducing poverty had pursued a two-pronged approach, consisting of (1) policies that promote efficient growth, making use of the poor's most abundant asset—labor; and (2) public expenditures and institutions that provide equitable access to education, health care, and other social services. It also emphasized the desirability of having in place a social safety net for the most vulnerable groups in society.

How the *1990 WDR's* approach to country policies, public expenditures, and institutions should be applied by the Bank in the policy dialogue, analytic work, lending, and donor coordination was established in the Bank's policy paper, *Assistance Strategies to Reduce Poverty.* It recommended that poverty assessments (see box) be prepared for all active borrower countries as a basis for the design of Bank-supported programs. In mid-1992, the Bank also issued an operational directive on poverty reduction and a *Poverty Reduction Handbook.* Together, these documents provide guidelines, tools, and information to help the Bank implement the approach spelled out in *WDR 1990.* The directive provides practical guidelines for strengthening the focus of Bank operations on poverty reduction; and the handbook surveys operational examples of how this can best be done.

Analytic framework

Sustainable poverty reduction is the Bank's overarching objective. Given limited resources, more poverty reduction can be achieved if pursued through

Poverty assessments

In its simplest form, the poverty assessment addresses three questions: (1) who is poor; (2) why are they poor; and (3) what should policymakers do about it?

Who is poor? The assessment starts with a poverty line (the level of income associated with a minimum acceptable level of nutrition and other necessities of everyday life) and a count of the people whose incomes fall below it. Depending on the availability of data, it identifies the poor by gender, age, and ethnic characteristics; where they live; and how they fit into the consumption and production activities of the economy. It summarizes the available social indicators (child mortality, nutrition status, female and male literacy, fertility, maternal mortality, etc.) and income indicators (per capita income, unskilled wages, etc.). It indicates the poor's ownership of assets, including land; the food security and other risks they face; and special environmental issues.

Why are they poor? The second step is to use the profile to help diagnose the constraints to poverty reduction. While the specific focus is determined by country circumstances, assessments normally (a) analyze the effectiveness of economic management in promoting efficient, labor-intensive growth; (b) evaluate government efforts to develop the poor's human resources; and (c) examine the extent and cost-effectiveness of the social safety net.

What should policymakers do about it? The third step is to recommend actions to strengthen the poverty-reducing impact of country policies, public expenditures, and institutional development. The prescription is based on a realistic assessment of (a) the government's capacity—both financial and institutional—to implement poverty reducing programs and policies, and (b) political economy considerations. In the context of adjustment, the assessment considers the impact on the poor of measures to stabilize and restructure the economy, as a basis for the design of compensatory programs.

economically efficient policies, programs, and expenditures. Economic stability and policies that allow prices to reflect relative scarcities and environmental impacts are thus essential. But the causes and solutions to poverty go beyond macroeconomics and efficiency pricing. The framework must therefore incorporate the behavioral context in which poverty persists in a particular setting. To this end, it is essential to understand the motivations and constraints of poor men and women and those who interact with them—such as their higher-income neighbors, potential employers, providers of credit, and landlords—in evaluating the impact of policies, programs, and projects.

What policies work?

The *bad news* that emerges from this approach is that many policies often considered pro-poor are not so, in practice. Well-intentioned programs often provide benefits for some poor individuals and groups, while making the situation worse for the vast majority of the poor. For example, by placing a ceiling on rents, rent controls create a situation in which the demand for housing exceeds the supply. Those who gain access to the rent-controlled housing get a good deal. But those who do not are required to seek shelter in informal markets, where rents are boosted by the spillover demand from the formal sector. Meanwhile, rent controls make formal-sector housing less attractive to investors; hence, less housing gets built and existing housing is not maintained. Price controls work in a similar fashion. Those lucky enough to get access to the product at the controlled price benefit. But others are forced to do without or to pay the street price, which—based on analysis and experience—is typically higher than without price controls.

In some cases, the situation is even worse, since those with higher incomes may preempt most of the benefits of programs, leaving only the costly side-effects for the poor. This tends to happen where credentials matter. For example, with interest rate ceilings, the demand for credit tends to exceed the supply. In such circumstances, banks ration credit to those borrowers with the lowest risk of default. This tends to be higher income applicants who can pledge assets as collateral.

The *good news* is that policies that work with incentives can succeed in improving the poor's situation. Such solutions focus on opening up the economic system, so that the poor can use prices and market signals to compete with those with higher incomes; they simultaneously promote efficiency and poverty reduction. Thus, instead of setting interest rate ceilings, which lock in the poor's disadvantage, it is better to ensure that financial regulations permit risk-reducing strategies—such as joint risk sharing, where community members guarantee each other's loans, and leasing of equipment or its use as collateral—so that the poor are not barred from credit transactions by their lack of land or property ownership. Providing water to the poor through financially autonomous water companies with an economic stake in satisfying the poor's market demand is another example of a "win-win" solution (see "Poverty and Water Supply: How to Move Forward," in this issue).

Public spending strategies

The above examples suggest that the preferred approach to poverty reduction is to let markets work and to address redistributive goals through transparent public expenditure programs. Thus, instead of rent controls, it is better to establish an adequate regulatory framework, coupled with infrastructure services targeted to poor areas. Instead of price controls or general food subsidies, it is better to restrict food subsidies to products consumed exclusively by the poor. Where administratively feasible, such targeted approaches help to minimize the costs and distortions associated with safety net programs.

Public expenditure strategies for reducing poverty also need to address the dynamic context of poverty and poverty reduction programs. Most of all, the poor need the means to escape from poverty. Public expenditures should thus ensure access to basic education, health care, and family planning services—to enable the poor to develop their talents, improve their productivity, and achieve economic independence and autonomy. Such expenditures also tend to be politically more sustainable than narrowly targeted programs, whose budgetary virtue in excluding those with higher incomes is often costly in terms of political support. Nevertheless, in some countries, even basic social services are starved of

funds, while programs with lower returns and higher income beneficiaries flourish.

Designing the program

These kinds of policy and public expenditure issues are important for the policy dialogue. They are central to the poverty assessment and the design of the country assistance strategy. Here, the handbook and directive mirror *Assistance Strategies to Reduce Poverty* in stating that the volume and composition of Bank lending should be linked to country efforts to reduce poverty. Stronger government commitment to poverty reduction—as measured by the adequacy of the policy framework for growth plus human development—warrants greater support. Meanwhile, the composition of lending should support and complement country efforts. For example, the poverty assessment may suggest the need to increase basic social services. This can be achieved by additional Bank lending to these sectors, or by linking Bank lending to shifts in public spending.

Growth and adjustment programs

Internal and external balance is a prerequisite for sustainable long-term growth and poverty reduction. Macroeconomic policies therefore must prevent the emergence of imbalances and adjust quickly to external shocks. Once in a disequilibrium situation, adjustment policies are needed to restore balance. They typically begin with a tightening of monetary and fiscal policies to bring aggregate demand into line with available resources, and exchange rate depreciation to equilibrate the market for foreign exchange. Over time, as efficient and sustainable growth resumes, the poor will gain. They will be in a better position to gain if spending programs to develop their human resources have been protected during the adjustment process, and if the policy package eliminates distortions that prejudice their interests in labor, asset, and product markets.

But adjustment policies also affect the poor more immediately. Determining the net impact requires a careful analysis of the activities in which the poor are engaged, what they consume, how prices change with the exchange rate or other events, and the public expenditure program. On the production side, the outcome depends mostly on whether the poor are net producers of tradables or of nontradables—since currency depreciation tends to raise relative prices, wages, and employment in the tradables sector. In sub-Saharan Africa, for example, the poor are mostly rural, and as producers, they tend to benefit from currency depreciation's positive impact on the agricultural sector; as consumers, however, both the urban and rural poor tend to lose from rising food prices.

Even if, for the poor as a group, the benefits from adjustment outweigh the costs, some poor people will be hurt by adjustment policies and their short-run effects. The directive and handbook therefore indicate that the design and implementation of Bank-supported adjustment programs should seek to protect the most vulnerable from declines in basic social services and consumption—with particular attention to food and nutritional security—in the context of the public expenditure program. In Latin America, for example, support for targeted nutrition programs has been a central feature of a number of adjustment programs.

Poverty reduction projects

Experience suggests that projects that yield high on-the-ground returns and benefit the poor involve the participation of the poor throughout the project cycle. In line with this finding and the analytic framework described above, those who are designing and implementing projects should have an understanding of how the poor make decisions; the constraints, risks, and incentives they face; and their preferences. Production-oriented projects must consider the likely financial returns for poor participants. If, for example, the poor perceive that a new agricultural technology is too risky, they will not adopt it, and the project will fail. For projects and programs designed to enhance the poor's human resources, satisfactorily addressing the poor's demand is likewise decisive for the project outcome. Benefits simply will not materialize if, for example, girls will not attend project-supported schools or women will not visit project-supported family planning clinics. During implementation, to determine whether targeted project beneficiaries are being reached and whether midcourse corrections in project design are needed, appropriate performance and participation benchmarks should be tracked and evaluated. Supervision of poverty reduction projects should also include contact with clients to assess service delivery.

Joanne Salop
a US citizen, is economic advisor to the Bank's Vice President, Sector and Operations Policy. She has worked on Africa and Europe, and published articles on exchange rate policy, labor markets, and income distribution.

Is it working?

To monitor its poverty reduction programs, the Bank has used different methods corresponding to its evolving operational approach. In the 1970s, for example, the Bank monitored the poverty focus of *individual* projects. That focus increasingly gave way in the 1980s to a more *programmatic* emphasis, paralleling the evolution of the Bank's operational approach to poverty reduction. The logical extension of this trend would be to monitor Bank effort by results—as measured by country performance on poverty reduction. But exclusive reliance on results would be difficult to square with the fact that Bank involvement has only a partial and variable impact on country poverty outcomes. Input measures of the Bank's contribution are also flawed. They require arbitrary distinctions between resources directed at poverty reduction and at other Bank objectives, such as growth, that are essential for sustained poverty reduction.

Recognizing that there is no perfect measure, monitoring the Bank's impact currently relies on three kinds of information:

- estimates of what is happening to poverty in countries, including progress on key social and economic indicators;
- qualitative judgments about the Bank's contribution, based on the poverty assessments, country assistance strategies, and operations; and
- the relative importance of total lending on projects with a specific mechanism for targeting the poor and on projects for which the proportion of the poor among project beneficiaries is substantially larger than their proportion in the overall population.

Next steps

Implementation is now the key. The Bank is preparing country poverty assessments as the basis for the design of country assistance strategies, and regular progress reports. But the Bank is only a small part of the story. A strong development partnership is needed, centered around country efforts. To facilitate consensus-building on operational approaches to poverty reduction, the discussion draft of the handbook was shared with member governments, UN agencies, the IMF, multilateral development banks, and nongovernmental organizations (NGOs). The current edition reflects their comments and suggestions. Future editions will reflect ongoing discussions and new lessons learned about poverty reduction. ■

Family Planning: The Unfinished Revolution

RODOLFO A. BULATAO

Voluntary family planning programs in the developing world help reduce population growth and contribute to better maternal and child health and to poverty alleviation. Despite the notable success of family planning programs in a number of regions, population growth remains high in many areas. The challenge lies in the better design and implementation of programs—whether new or ongoing—to ensure wider reach.

Family planning makes a difference. In 1960, Ethiopia's population was 10 percent smaller than that of the Republic of Korea. Over the next three decades, Ethiopia recorded almost two-and-a-half times as many deaths as Korea, but by 1990, Ethiopia's population was 20 percent larger. At least as significant, by 1990 each Korean of working age (15-64 years) had 0.44 dependents to support, whereas each Ethiopian of working age had 1.04—more than twice as many—dependents to support. Ethiopia had 26 million people in the dependent ages, compared with only 13 million in Korea.

Partly responsible for the contrasting demographic trends was an effective family planning program that Korea started in the early 1960s. Contraceptive prevalence (the proportion of married women 15-49 using contraception) climbed from under 10 percent to over 70 percent—a level comparable to that in developed countries—and fertility fell correspondingly. Almost within a generation, Korean parents went from having six children to having barely enough, and lately not quite enough, to replace themselves in the population. This substantial secular decline in fertility, which paralleled but was faster than earlier changes in developed countries, is often referred to as the fertility transition.

In countries spread over every region of the world, family planning is seen as a means of reducing high rates of population growth and of helping to improve the living conditions of individuals and families. Family planning has contributed to lower fertility, and at the same time to better child survival, lower maternal mortality, and reduced burdens for parents. The spread of family planning has now reached a tipping point: half of all couples in developing countries—about 365 million—are using contraception.

Family planning programs have especially benefited the poor. They typically have larger families, and commercial contraceptives are often priced beyond their reach. Contraceptive pills and condoms cost more than 5 percent of per capita GNP in the majority of sub-Saharan African countries, as well as in at least a few countries in every other region. This makes it difficult for poor women to avoid pregnancy. That they want to do so is suggested by the substantial unmet need for contraception, which ranges from 10 percent to as high as 70 percent of women of reproductive age.

Program experience

Family planning programs started slowly in the early 1950s, expanded rapidly in the 1970s and 1980s, and now exist in almost one hundred developing countries around the world (see table). These programs basically provide contraceptive services and counseling on the use of a variety of contraceptive methods. Communication campaigns to reach potential users, which explain the benefits of

smaller families and ease concerns about contraceptive technology, are an essential part. Some programs also provide, or are linked with, a variety of other services, such as maternal and child health services and income generation activities.

Family planning programs, in country after country, have encountered similar obstacles: initial skepticism that a social program can change highly personal behavior; shortages of resources, particularly skilled management staff; ideological opposition, sometimes religious and sometimes political, as the program becomes more visible; jurisdictional quarrels between health providers and family planners, or between ministries and nongovernmental organizations, or among various donors eager to put their mark on a program; stalls in performance if programs focus narrowly on particular client groups; and an increasing concern with costs, as the number served grows and donors turn their attention elsewhere.

At the same time, the fundamental viability of a family planning program in any culture and at any level of socioeconomic development has been increasingly established, as shown by the experience in selected countries in two regions—East and Southeast Asia and sub-Saharan Africa. The experience of these countries demonstrates the elements of program successes, as well as the obstacles that frequently prevail.

Room for improvement
Strength of family planning program, 1989

Strong	Moderate		Weak		Very weak or none
Bangladesh	Chile	Korea, PDR	Afghanistan	Madagascar	Cambodia
Botswana	Colombia	Lebanon	Algeria	Mali	Chad
China	Costa Rica	Malaysia	Angola	Mauritania	Gabon
El Salvador	Cuba	Morocco	Argentina	Mozambique	Iraq
India	Dominican Republic	Nepal	Benin	Niger	Côte d'Ivoire
Indonesia	Ecuador	Pakistan	Bhutan	Nigeria	Kuwait
Korea, Republic of	Egypt	Panama	Bolivia	Papua New Guinea	Lao PDR
Mauritius	Ghana	Peru	Brazil	Paraguay	Liberia
Mexico	Guatemala	Philippines	Burkina Faso	Rwanda	Libya
Sri Lanka	Guyana	South Africa	Burundi	Senegal	Malawi
Taiwan Province of China	Honduras	Singapore	Cameroon	Sierra Leone	Myanmar
Thailand	Iran	Venezuela	Central African Republic	Syria	Namibia
Trinidad & Tobago	Jamaica	Zambia	Congo	Tanzania	Oman
Tunisia	Kenya	Zimbabwe	Ethiopia	Togo	Saudi Arabia
Viet Nam			Guinea	Turkey	Somalia
			Guinea-Bissau	Uganda	Sudan
			Haiti	Uruguay	United Arab Emirates
			Jordan	Yemen	
			Lesotho	Zaïre	

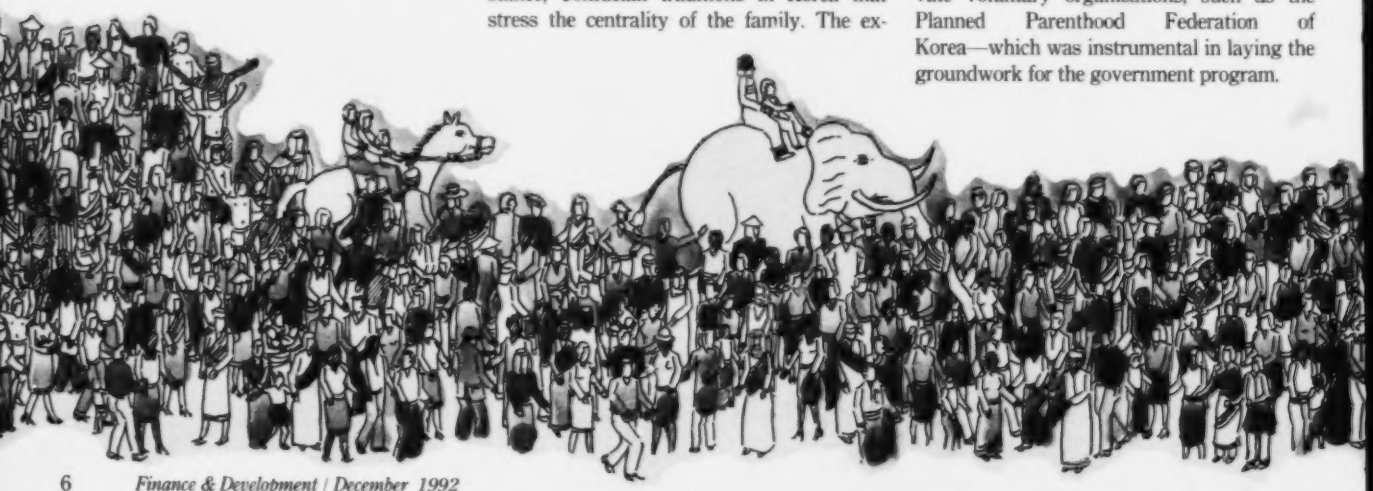
Source: W. Parker Mauldin and John Ross, The Population Council.

East and Southeast Asia. This region had some of the earliest family planning programs and showed rapid increases in contraceptive use. The chart shows dates when national family programs started in selected countries and subsequent trends in contraceptive use. Contraceptive prevalence increased steadily by around 3 percentage points annually in Indonesia, Korea, and Thailand. Prevalence increased much more slowly in the Philippines, by only 1.7 points annually on average (see chart).

Initial conditions in these East and Southeast Asian countries were not particularly favorable to fertility transition. Socioeconomic conditions when programs were established—income, infant mortality, female education, and urbanization—were roughly comparable to conditions in the average low-income economy today. The cultural barriers to reducing fertility included, for instance, Confucian traditions in Korea that stress the centrality of the family. The extended household was common, and the patrilineal family structure allowed parents to influence their children's reproductive decisions. Political opposition to family planning also appeared, often based on religion.

But some desire for smaller families did exist, and increased over time. Near the start of fertility transition in Indonesia, Korea, and Thailand, women reported their ideal families to be around four children. Over the next two decades, this number fell by one child every 12 years in each country. As ideal family size declined, socioeconomic conditions—especially income and infant mortality—were improving rapidly.

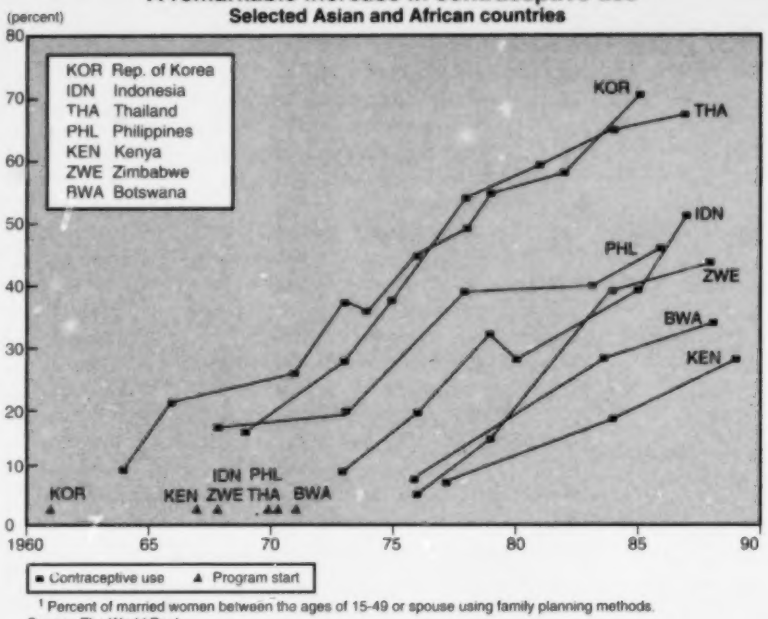
Family planning programs in these countries succeeded by taking advantage of opportunities to mobilize political support, meeting the existing demand for contraception, and developing innovative ways to deliver services. Political stability and strong governments created conditions in which such social programs could be run effectively, although political upheaval sometimes provided some initial impetus. In Korea, the program started in the context of a massive reconstruction effort begun by a new administration a decade after the end of the Korean War. Widespread existing demand for contraception was demonstrated by pilot projects, such as the Jakarta pilot project in Indonesia, and by private voluntary organizations, such as the Planned Parenthood Federation of Korea—which was instrumental in laying the groundwork for the government program.



The contribution of programs to the rise in contraceptive use was substantial in all the countries. For instance, 40 percent of the fertility decline in Korea in 1963-73 was contributed by program-supplied contraceptives, as opposed to other proximate determinants (for example, abortion) or other sources of contraceptives.

Fertility transition is far from complete in the region, however. A number of countries, such as the Philippines and Viet Nam, remain mired in slow fertility transitions. Even in the more successful countries significant numbers of people still do not have adequate access to contraception. In Indonesia, the Outer Islands are well behind Java and Bali. Provincial total fertility rates range from 2.4 in Bali to as high as 5.3 in South East Sulawesi and Irian Jaya.

A remarkable increase in contraceptive use[1]
Selected Asian and African countries



[1] Percent of married women between the ages of 15-49 or spouse using family planning methods.
Source: The World Bank.

Sub-Saharan Africa. Family planning programs have made much less headway in sub-Saharan Africa. Even in this region, however, some countries show unmistakable signs that fertility transition is underway, and in other countries, small-scale successes in particular communities demonstrate the potential for family planning programs.

Programs in Botswana, Kenya, and Zimbabwe started in the late 1960s or early 1970s, but prevalence did not exceed 10 percent until the 1980s. When fertility transition started, contraceptive prevalence increased at widely divergent rates: 1.7 points a year in Kenya, 2.1 points a year in Botswana, and 3.1 percentage points a year in Zimbabwe.

Both socioeconomic and cultural influences have been used to explain the delay in the start of transition, but neither provide an adequate explanation. Socioeconomic conditions when programs started were slightly behind conditions in Korea and Thailand, but better than conditions in Indonesia. Relative to Asian countries, these countries experienced relatively slower income growth but comparable improvements in social indicators—infant mortality, female education, and urbanization.

The cultural barriers to family planning in these countries, and elsewhere in sub-Saharan Africa, parallel in important ways those in Asia. For both regions, children are seen as assets to the older generation, providing assistance and security—strong motives for the extended family to encourage high fertility. As in Asia, these motives have not proven to be absolute barriers to fertility transition.

What was distinctive about Botswana, Kenya, and Zimbabwe was the nature of existing demand for contraception, which was largely to space births rather than to reduce the total number. Programs attempted to address this demand by emphasizing the benefits of child spacing and providing temporary methods, often birth control pills. However, delivery systems have been quite different. Botswana, with presumably stronger demand because of socioeconomic factors, as well as a public health system that covers the country fairly evenly, has relied on health posts and health centers to provide contraceptives. Zimbabwe has placed primary emphasis on community-based distribution to the rural population. Kenya has also emphasized outreach, but has relied to a much greater extent than Zimbabwe on private voluntary organizations to complement public services.

In contrast, Ghana, Rwanda, and Zaïre have not started fertility transition. They differ from the other three countries not in initial socioeconomic conditions—they actually had slightly higher GNP per capita at the time their programs started—but in socioeconomic trends since then. They have had negative economic growth and relatively small improvements in social indicators. Nevertheless, family planning programs have had some effect in small areas.

In the city of Kananga, Zaïre, the Institut Medical Chrétien du Kasai reoriented its two family planning clinics to make their services more accessible; provided apprenticeships for nurses from a dozen other clinics and helped improve their procedures; and marketed subsidized contraceptives through 30 pharmacies and shops. Visits to the Institut's clinics increased 15-fold, and the prevalence of modern methods went from 4 to 8 percent in 18 months.

In Ghana, the midwives association provided its members with training in family planning, supervision, and assistance with supplies. After one to two years, the first 130 midwives trained reported an average of 100

new family planning clients each, 80 percent of them using contraceptives for the first time.

In the Ruhengeri region of Rwanda, Abakangurambaga (wakers of the people), who provide information on development topics to small groups of households, were used to provide family planning information and referrals to clinics. In the commune where they were most active, a survey showed the prevalence of modern methods rising to 29 from 5 percent in 16 months.

Each of these approaches suggests a different way family planning can be effectively delivered in a relatively unfavorable socioeconomic setting.

Program challenges

By the year 2000, the number of contraceptive users in developing countries will have to be 40 percent higher if fertility declines are to match projections. New programs will be needed where family planning has received little attention so far, and new approaches must be invented for mature programs to enable them to expand their clients. Social development will also have to proceed apace: women need more education to appreciate the benefits of smaller families, and they need firmer assurance that their children will survive. Both new and ongoing programs will have to emphasize some basic approaches that research and experience have shown can contribute to wider contraceptive use.

Improving quality of services. Programs need to focus on providing quality services that attract clients. A good program provides access to a range of appropriate contraceptive methods and facilitates their continued use; provides adequate counseling, respects client sensibilities, and responds to client concerns; and is run by technically competent providers according to proper medical standards.

These elements of quality are not always present. About half of almost 100 national programs rated in 1989 were judged to provide inadequate access to each of five contraceptive methods. When methods are available, counseling may be unsatisfactory: large numbers of birth control pill users in such countries as Brazil and Egypt have been shown to be using them incorrectly. Client sensibilities are often offended by long waiting times and rude and impatient staff.

Quality services, on the other hand, attract clients. Providing an additional contraceptive method, for instance, appears to add an additional layer of contraceptive users. Reducing waiting times allows a clinic to serve more users. A clinic in Ecuador reduced waiting times with additional staff and experienced a more than proportional increase in clients served. At the same time, quality services can be more efficient. The Matlab project in Bangladesh stressed quality, offering more reversible methods than the government program, recruiting workers with higher credibility who were more intensively supervised, giving clients better counseling about side effects, adding more intensive follow-up through home visits, and providing added maternal and child health services. Because it attracted more users, the cost per birth averted through contraception was two thirds that of a comparison area with less intensive services.

Ensuring accountability and strategic management. Programs must be managed strategically. A program manager must be responsive to its environment, taking advantage of cultural tendencies and social factors and negotiating its way through the political and other obstacles that arise. Programs typically develop in three ways: from seeking clients among those already disposed to contracept to focusing on the large disadvantaged majority among whom the small-family norm must be cultivated; from heavy reliance on donors and volunteers to reliance on a network of agencies and eventually on the public at large; from services provided passively in a few sites to active outreach and eventually to services carefully differentiated by market segment. Programs need to recognize the challenges posed by this evolution.

Rodolfo A. Bulatao
a Philippine citizen, is a Senior Demographer with the Population Policy and Advisory Staff of the Bank's Population and Human Resources Department. He holds a PhD from the University of Chicago.

Management responsibilities are varied, from mobilizing public support for a program to managing staff. Most critical are ensuring reliable logistics and providing adequate field supervision. The logistical systems for handling contraceptives are often weak. Supply shortages contribute to contraceptive discontinuation and user dissatisfaction, damage morale among staff, and contribute to a poor program image. Supervision of the field staff who actually distribute the contraceptives and provide counseling is critical, because it strengthens their motivation and helps them apply their skills to program tasks.

Encouraging the private sector. Programs need greater involvement of the private sector. In family planning, this sector is quite varied, including nongovernmental organizations, private practitioners, and commercial outlets for contraceptives. The sector can provide additional resources and is sometimes more flexible and efficient than public services.

Private services may be useful in introducing family planning generally, or in introducing specific services. They may reach specific populations, not only through their own clinics but also through networks of private practitioners and commercial distributors for the marketing of subsidized contraceptives. Involving the private sector often requires reform of laws or regulations that limit them, such as import duties on contraceptive supplies and prescription requirements that unnecessarily restrict contraceptive availability.

Designing effective promotion campaigns. The creative promotion of programs—both government and private—is essential to their success. Like any new product, contraceptives have to be brought to the attention of potential users, made attractive, and shown to be safe. This effort is essentially educational, aimed at producing satisfied and effective users willing to encourage others.

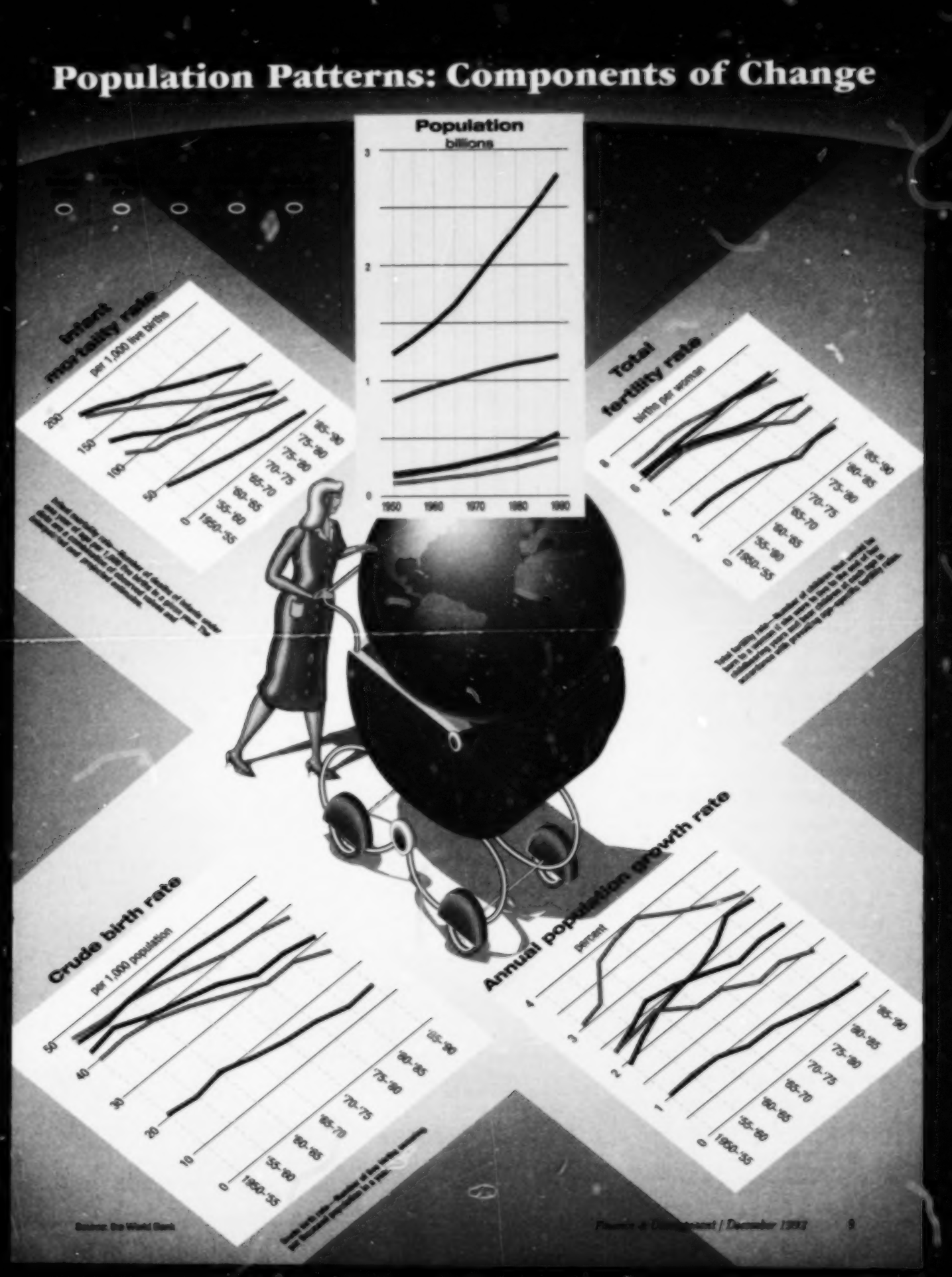
Interpersonal channels and the mass media can be effective tools. Both must be used with all the skills and techniques of modern public relations and advertising, so that family planning messages are able to compete in the noisy marketplace.

Obtaining official assistance. Government and donor support must be constant. By the standards of large-scale social interventions, family planning programs are not expensive. In 1990, programs cost about $4 billion–$5 billion. Donor assistance in population was about 1.2 percent of official development assistance, barely 2 percent more (in constant dollars) than it was in 1985. If individuals themselves had to pay for family planning, the cost could have been beyond the means of many. Commercial prices for contraceptives are such that, for over 60 percent of sub-Saharan countries, a supply of contraceptive pills would cost more than 5 percent of average annual income.

Political commitment is also essential to allow programs to recruit essential staff, obtain the cooperation of other agencies, and free programs from webs of regulation that could otherwise severely hamper their opera- ■

For an in-depth study of the evidence, see "Effective Family Planning Programs" to be published as a "Best Practice" paper by the World Bank.

Population Patterns: Components of Change



Unorthodox Adjustment and Poverty in Peru

PAUL GLEWWE AND GILLETTE HALL

Faced with economic stagnation and decline during the 1980s, many developing countries adopted macroeconomic and structural adjustment programs that were recommended and partially financed by the World Bank and the IMF. A few countries that were anxious to avoid the perceived economic and social costs of structural adjustment, however, experimented with alternative "unorthodox" (the so-called heterodox) programs. While designed to encourage rapid growth, along with a more equitable distribution of welfare, such alternative approaches did not always succeed and, in fact, may have hurt the poor more than the general population.

The social consequences of World Bank and IMF-supported structural adjustment programs have been widely discussed and criticized in recent years. But whether countries adopting alternative policies have been successful in protecting the poor while reviving economic growth has not been subject to the same scrutiny. The case of Peru, where Bank and IMF-supported structural adjustment policies were deliberately avoided from 1985 to 1990, offers an opportunity to undertake just such an examination. Two unusually rich household-level surveys for Peru provide unique insights into changes in living standards under an "unorthodox" program. The findings are quite sobering; not only did the economy as a whole deteriorate but the policies also failed to protect the poor.

Unorthodox approach, 1985–90

The APRA (Alianza Popular Revolucionaria Americana) government that took office in 1985 inherited an economy that had not weathered the debt crisis well. Despite two stabilization programs between 1981 and 1985, inflation had soared, with prices more than doubling each year after 1982. At the same time, real output declined by 27 percent and gross domestic investment fell by 62 percent.

These depressed conditions reflected both international and domestic factors. Certainly the bankers' panic ignited by the 1982 Mexican default had a negative impact; although Peru had been meeting debt payments on schedule (and even early) through 1983, loans from international private capital markets were virtually unobtainable by the end of 1982. From 1982 to 1985, Peru's net capital inflow (public and private) fell by 78 percent, with net private capital flows negative in 1984 and 1985. The lower demand for Peru's exports, owing to the world recession, produced a 50 percent decline in their unit value between 1980 and 1985; despite an increased volume, total export revenue declined by 24 percent over that period.

The World Bank and IMF approach to adjustment in countries experiencing such deteriorating economic conditions has emphasized immediate stabilization—getting trade and budget deficits under control—followed by a restructuring of the economy to promote sustainable, long-run growth. Such growth is to be achieved by removing price and other market distortions (such as trade barriers), and by encouraging private sector investment.

In the early to mid-1980s, the short-run impact of adjustment policies on poverty was often not explicitly addressed by the Bank/IMF approach. The implicit presumption was that growth would reduce poverty in the long run, and that short-run negative consequences were an unavoidable cost of adjustment. Only in the late 1980s was poverty recognized as a central issue of the adjustment process; incorporating poverty concerns into adjustment policies then became the topic of the *World Development Report 1990*.

In contrast to Bank/IMF policies, Peru's unorthodox approach taken in 1985 did not focus on immediate stabilization. Rather, policies were aimed at "jump-starting" consump-

Table 1
A profile of Peru's macroeconomic deterioration

	1980	1985	1990
Index of annual:			
GDP per capita	100	87	70
Average real minimum wage, Lima	100	54	21
Consumer prices[1]	100	3,474	40,216,592
Exports (dollars)[2]	100	76	83
Net international reserves[3]	100	89	-13

Source: Glewwe and Hall, 1992.
[1]June of each year, through June 1, 1990.
[2]Estimated from data through September 1990.
[3]June of each year.

Table 2
The poorest suffered the biggest drop in consumption

Decile[1]	Lima 1985–86	Lima 1990	Percent change
1	2,258.6	848.9	–62.4
2	3,181.1	1,345.2	–57.7
3	3,808.8	1,731.9	–54.5
4	4,386.9	2,015.2	–54.1
5	5,164.7	2,349.7	–54.5
6	6,098.9	2,739.6	–55.1
7	7,128.5	3,218.5	–54.9
8	8,669.9	3,970.8	–54.2
9	11,451.5	5,311.0	–53.6
10	25,657.8	11,796.0	–54.0
All Lima	7,774.4	3,531.7	–54.6

Source: Glewwe and Hall, 1992.
Note: Figures are valued in thousands of constant June 1, 1990 intis ($1 = 50,000 intis) for Tables 2 and 3.
[1]Ranked from poorest to richest.

tion and investment through large injections of government resources into the economy. Macroeconomic stabilization, it was thought, could only be attained after an initial period of growth. The government introduced price controls, along with broad-based subsidies and transfers, with the explicit aim of protecting the poor while encouraging demand-induced growth. Further measures included a unilateral reduction in foreign debt payments, which would finance the process of "economic reactivation," redirecting funds toward domestic expenditures, with priority given to meeting the needs of the poor through wage increases, jobs programs, and investments in education and health.

While these policies fostered rapid economic growth in the short run, their unsustainability was evident by mid-1987, when inflationary pressures and widening budget deficits appeared. Reactivation policies nonetheless continued until September 1988, when the government announced "El Paquetazo," a severe readjustment of prices that increased consumer prices by 114 percent. Ad hoc adjustment, consisting primarily of price increases without real wage increases, characterized the last two years of the APRA administration. Annual inflation rates (December-December), compared with a base of 158 percent in 1985, rose 1,720 percent in 1988, 2,776 percent in 1989, and were still accelerating when the government changed in late July 1990. From 1987 to 1990, per capita production declined by 25 percent, and the real minimum wage by 60 percent.

Recent appraisals of the Peruvian experience highlight the severe deterioration between 1985 and 1990 in virtually all indicators of macroeconomic performance (see Table 1). Briefly, the country was virtually blacklisted by both public and private international lenders, and thus had no access to foreign credit. Domestically, the use of government funds (generated in part through the diversion of debt payments) to subsidize consumption and investment brought the government to the brink of bankruptcy by 1988. At that point, the government financed expenditures by effectively printing money, and inflation soared. However, none of these studies conclusively examined changes in inequality and poverty during that period.

Living standards

Four Living Standards Surveys (see box) have been conducted in Peru. This article compares data from the 1985–86 survey, which covered all of Peru, with the 1990 survey that was conducted in metropolitan Lima only (covering 33 percent of the country's population). Our discussion of the survey results is, therefore, limited to Lima, the capital.

Table 3
Identifying the poorest families in Lima

	Percent change in per capita monthly consumption since 1985–86
Sex	
Male	–54.5
Female	–54.9
Education level	
None	–58.7
Primary	–59.1
Secondary general	–55.1
Secondary technical	–46.4
University	–54.0
Other post-secondary	–36.9
Occupation of head	
Agriculture	–50.4
Sales/services	–56.7
Industry/crafts	–52.3
White collar	–54.1
Unemployed	–65.9
Retired	–50.2
All Lima	–54.6

Source: Glewwe and Hall, 1992.
Note: Population percentages do not add to 100 due to missing information for 0.3 percent of observations in 1985–86.

The measure of household welfare used here is the value of consumption of goods and services. Very careful procedures were used to convert nominal amounts reported in the questionnaires to real monthly values, yielding real household consumption per month. These values are then adjusted for the number and ages of individuals in each household to provide an adjusted per capita consumption figure that reflects the variation in consumption levels of adults and children.

The overall results of the two surveys reveal an average decline in consumption of over 50 percent from 1985 to 1990 (see Table 2), which is without doubt one of the most rapid and severe deteriorations in living standards ever recorded.

Changes in overall distribution of consumption expenditures. To examine changes in inequality from 1985–86 to 1990, both surveys divided the population of Lima into ten expenditure groups. As shown in Table 2, decile 1 contained the poorest 10 percent of the population (defined by adjusted per capita consumption expenditures), decile 2 contained the next poorest 10 percent, and so on.

Several conclusions can be drawn from Table 2. First, all deciles experienced declines in their consumption that left them at about one half of their 1985–86 levels. Second, the poorest decile lost the most, experiencing a 62 percent decline in consumption, and the second poorest decile experienced the next largest decline, a drop of 58 percent. Thus the data from these two surveys indicate that the distribution of consumption expenditures in Lima became less equal between 1985–90, despite policy goals to the contrary.

Changes in consumption expenditures by household characteristics. One

Table 4

The extent of poverty in Lima

Poverty line[1]	Value of poverty line, June 1, 1990 Intis	Percent of population below poverty line in Lima	
		1985–86	1990
1. Poverty line 1 (based on total expenditures)	1,447,650	0.5	17.3
2. Poverty line 2 (based on food expenditures)	1,447,650	12.7	54.7

Source: Glewwe and Hall, 1992.
[1]Based on monthly real adjusted food and total expenditures.

way to examine the change in consumption expenditures from 1985–86 to 1990 is to look at gender, education level, and employment characteristics of household heads. Table 3 highlights three results.

(1) The position of female-headed households relative to male-headed households in Lima changed very little from 1985-86 to 1990.

(2) In Lima, households headed by someone with no education or only primary education experienced the largest declines in expenditures relative to those with better educated heads. The percentage declines in expenditures of these two groups were larger than for any other population group classified by household head characteristic (with the sole exception of the unemployed). Only households headed by those with secondary technical or other post secondary education exhibit declines in consumption significantly smaller than the average for all of Lima. This suggests that technical education helps reduce vulnerability to severe welfare loss. The fact that those with higher education and technical training also began the period with relatively higher consumption is consistent with the finding in Table 2 that the distribution of expenditures became less equal from 1985–86 to 1990.

(3) Persons living in households where the head was unemployed experienced by far the largest drop in consumption, and expanded from 2.9 percent to 5.1 percent of the population. Further, absolute consumption levels for these households in 1990 were lower than for all employment categories. This contrasts sharply with the economic status of the unemployed in Lima in 1985–86, when households headed by the unemployed had higher consumption levels than all other occupational categories except white collar employees. Thus, unemployment rose substantially between 1985–86 and 1990, and the bulk of the newly unemployed were among the poorest.

Other indicators of living standards. Examining changes in the physical living conditions, based on housing conditions and the provision of social services, is also a good indication of how the poor fared. The quality of homes deteriorated significantly in Lima over 1985–86 and 1990 for households in the poorest 20 percent of the population, where the incidence of housing made of improvised materials (straw, cane, and mud shacks) qua- drupled between 1985-86 and 1990. Access to public services, such as public water and sewage systems, also deteriorated most significantly among the poorest. This decline was particularly evident in the impoverished areas of Lima—Conos Norte, Este, and Sur—whose residents also suffered the greatest declines in consumption.

Measuring the change in poverty

Our findings also show significant changes in poverty in Lima from 1985–86 to 1990, although quantifying such changes is somewhat difficult. We use the standard "headcount" definition of aggregate poverty, that is, the fraction of the total population whose consumption is below the given poverty line. There is no official or widely accepted poverty line in Lima. But it is clear, as will be seen below, that poverty in Lima increased substantially between 1985–86 and 1990. This implies that poverty indexes that take into account the depth of poverty (the "gap" between the poverty line and each household's actual expenditures), as well as distributionally sensitive indexes (those that account for inequality among the poor), would show large increases in poverty regardless of how the poverty line is defined.

To assess the extent of poverty in Lima in both years, we used two poverty lines based on the cost of a minimum basket of food for a family of six in Lima (see Table 4). The daily cost of this basket in June 1, 1990 Intis was 154,416, which implies a cost of 4,632,480 Intis per month. Adjusting the resulting per capita value of the food basket for household composition implies a poverty line of 1,477,650 Intis per "adult equivalent." If one defines as poor any household for whom per capita adjusted consumption is less than this figure, so that even if all household income money were spent on food it could not purchase the minimum basket (Poverty Line 1), only 0.5 percent of the population of Lima was poor in 1985–86. But if one defines as poor all households where per capita food expenditures were below this amount (Poverty Line 2), 12.7 percent of Lima's population was poor; in 1985–86.

The percent of the population with expenditure levels below the amount required to purchase the basket according to Poverty Line 1 jumped from 0.5 percent in 1985–86 to 17.3 percent in 1990—an unprecedented increase. Alternatively, according to Poverty Line 2, the incidence of poverty quadruples between 1985–86 and 1990; in 1985–86, one out of every eight residents of Lima were poor; by 1990 more than half were poor.

Some lessons

The Peruvian Government opted for a policy of "unorthodox" adjustment during 1985–86 to 1990 in an attempt to encourage rapid growth and improve living standards. While it is very difficult, and beyond the scope of this article, to prove that the increase in poverty was caused by the specific macroeconomic policies adopted between 1985–90, the findings do provide a stark example of the difficulty of using unorthodox policies to simultaneously encourage growth and reduce poverty. Our research shows that the hoped for improvement in growth rates and living standards did not materialize. In fact, the incidence of poverty in Lima increased dramatically and the distribution of consumption became more unequal.

Further investigation provides a clearer picture of what happened between 1985–90.

• Households headed by individuals with relatively low levels of education experienced

Paul Glewwe
a US citizen, is an Economist in the World Bank's Population and Human Resources Department. He has degrees from the University of Chicago and Stanford University.

Gillette Hall
a US citizen, is a Consultant with the Bank's Poverty Analysis and Poverty Division of the Population and Human Resources Department. She is a PhD candidate at Cambridge University, England.

greater declines in consumption level than the better educated. Thus the poor, who have lower education levels, suffered disproportionately because the returns to human capital were more stable at higher levels of education. In terms of identifying the poorest, the level of education is probably the best indicator. This suggests that long-run social investment plans would do well to give priority to education of the poor.

• Unemployment rose significantly and became a distinct characteristic of the poor. Thus social expenditure programs designed to increase low-wage employment opportunities may be an efficient method to target the poor.

• The provision of public services, particularly potable water and sewage services, deteriorated across the city, but most severely in the three poorest regions—Conos Este, Norte, and Sur. Investment in public water and sanitation services directed at these three areas would significantly improve living standards.

Perhaps the most important lesson to be drawn from these conclusions is that there are no quick fix macroeconomic solutions when addressing the twin problems of economic stagnation and poverty in developing countries. "Unorthodox" alternatives to structural adjustment, while designed to encourage rapid growth along with a more equitable distribution of welfare, may not succeed in this endeavor and may, in fact, hurt the poor more than the general population. The orthodox policies that were rejected in Peru in 1985 were adopted in 1990 after a change of government. Peru now faces the task of reviving economic growth with much higher poverty rates that those prevailing in 1985. ■

The Living Standards Measurement Study (LSMS) began in 1979. Its purpose is to generate high quality, policy-relevant household survey data in developing countries. While the data can be used for a variety of sectoral and economic analyses, the LSMS mandate centers on welfare, income distribution, and poverty. In particular, survey results are useful in assessing the impact of development policies and programs on different socioeconomic groups. In addition to Peru, surveys have been completed in Bolivia, Côte d'Ivoire, Ghana, Jamaica, Mauritania, Morocco, Pakistan, and Venezuela. New LSMS projects are underway in China, Guyana, Nicaragua, and Viet Nam.

For an in-depth analysis, see "Poverty and Inequality during Unorthodox Adjustment: The Case of Peru, 1985–90" by the authors, Living Standards Measurement Study Working Paper No. 86, The World Bank, 1992, available from the World Bank Publication Services.

3 NEW Studies Pinpoint Urban Issues, Provide Frameworks, Guidelines for Progress

☐ **Urban Public Finance in Developing Countries**
Roy W. Bahl and Johannes F. Linn
Provides a framework for urban public finance in developing countries. It shows ways to create higher tax revenues to strengthen urban infrastructures and meet fiscal demands to cities as urban population growth continues to explode.
Published for the World Bank by Oxford University Press
565 pages / ISBN 0-19-520805-6 / $59.95

☐ **Urban Property Tax Reform Guidelines and Recommendations**
William Dillinger
Shows developing countries how to increase tax contributions in urban areas and improve the delivery of municipal services.
56 pages / ISBN 0-8213-2065-3 / $6.95

☐ **Reforming Urban Land Policies and Institutions in Developing Countries**
Catherine Farvacque and Patrick McAuslan
Outlines specific reforms in urban land management designed to decentralize and make equitable the processes that control land use, ownership, registration, and development.
133 pages / ISBN 0-8213-2092-0 / $9.95

Name _____
Address _____
City/State _____ Postal Code/Country _____
Customers who send payment or charge with a credit card should add $3.50 shipping and handling. Those institutions ordering with a purchase order will be charged actual shipping and handling charges.
❑ Enclosed is my check for US$ _____ payable to World Bank Publications.
❑ Charge my ❑ VISA ❑ MasterCard ❑ American Express ❑ Eurocard
(American Express accepted only for orders to Washington, D.C. Eurocard accepted only for orders to Paris.)
Credit Card Number _____ Expiration Date _____
Signature _____
❑ Please bill me (institutional customers only) _____
Include purchase order or list order number

Coupon orders accepted only from the U.S.A. and France. To order from other countries, request a list of World Bank Publications Distributors. Prices vary by country.

In the U.S. return the coupon to:
World Bank Publications
P.O. Box 7247-8619
Philadelphia, PA 19170-8619

In France return the coupon to:
World Bank Publications
66, avenue d'Iéna
75116 Paris, France

Women's Employment and Pay in Latin America

GEORGE PSACHAROPOULOS
Senior Human Resources Advisor

CAROLYN WINTER
Human Resources Specialist

The World Bank

Why are women not fully participating in the work force? Why are they paid less than men? Understanding the reasons why can lead to policies that will increase women's welfare and improve efficiency.

Over the past decade, increasing recognition has been given to women's contribution to the development process. But, despite the progress that has been made in Latin American countries in improving women's circumstances and opportunities, the proportion of women entering the labor market continues to be well below that of men, as are their average earnings. Understanding the reasons for this can assist in the development of policies that would allow women to perform to their full economic potential.

This article discusses the findings of a recently completed study of women's labor force participation and earnings in 14 Latin American and Caribbean countries. The study examines women's labor force participation rates, identifies the principal factors affecting women's participation decisions, and looks at women's earnings relative to men's. Based on the findings, it also suggests appropriate social policy measures most likely to improve women's welfare.

Participation rates

Women's labor force participation rates remain low in Latin America, with approximately one third of working age women entering the labor market. However, there has been a clear trend toward greater female involvement. In Brazil, Mexico, and Venezuela the ratio of female to male workers increased from around 0.21 in the early 1960s to approximately 0.38 in the 1980s. Although female participation rates increased more rapidly during the economic crisis of the 1980s, when women sought to supplement declining family incomes, these increases have been largely maintained following the crisis.

Why women's participation rates have grown so rapidly is not clear, but there are several possible reasons. First, various laws prohibiting women from working in particular occupations or during certain work shifts have been repealed in these countries. In addition, public sector employment opportunities have expanded for women; Latin American governments are now well-established as the principal employers of women. Finally, women's access to all levels of education has improved greatly.

Despite the trend toward increasing female participation, a large proportion of women of child-bearing age continue to withdraw from the labor force, presumably to care for their young children and, unlike many women in the United States, do not re-enter employment once their children are in school. This drop in participation rates has important welfare implications because these women have acquired human capital, which they may not be able to use if they do not re-enter the labor market. It is thus important to understand the factors influencing women's decisions to both enter and re-enter the labor market.

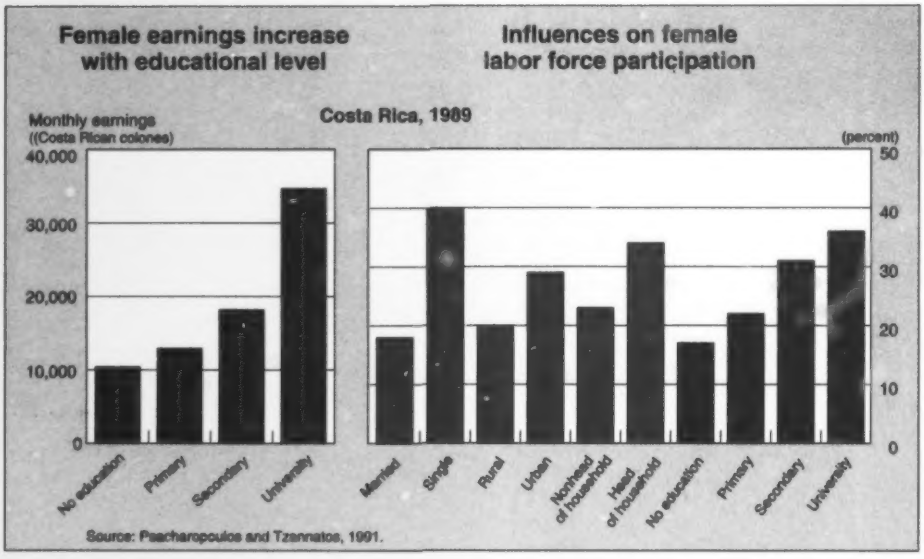
This article is based on a study entitled "Women's Employment and Pay in Latin America," Part I: Methodology and Overview, Part II: Country Case Studies, edited by George Psacharopoulos and Zafiris Tzannatos, Latin American Technical Department, Regional Studies Program, World Bank, Report No. 10, October 1991.

Determinants of participation

Data from household surveys in the 14 countries studied were used to identify some of the principal factors affecting women's decisions to enter the labor force. Because many of these factors can be influenced by government policy, there is considerable potential both to increase the countries' productive work force and improve women's economic status.

Education. Education is one of the most powerful determinants of labor force participation among women. In Argentina, a woman with less than primary education has a *ceteris paribus* 28 percent probability of participation compared with a 58 percent probability if she is a university graduate. In Venezuela, the probability of participation increases to more than 85 percent from about 30 percent across the same education levels. In addition, education has very strong effects on women's earnings; a woman who has completed primary school in Brazil, for example, makes 91 percent more than her uneducated counterpart in the formal sector, 116 percent more than an uneducated co-worker in the informal sector, and 100 percent more than an uneducated woman in self-employment.

Family characteristics. A woman's family characteristics—whether she is married and has young children—also exerts a strong effect on her propensity to participate in the labor market. In most of the countries studied, married women are much less likely to participate than single women. In Costa Rica, for example, married women have only half the probability of participating compared to single women (see chart). The probability drops substantially among women with



young children of preschool age—by about 26 percent in Honduras, for example.

Being the head of a household is also one of the stronger determinants of female participation. In Colombia, for example, the probability of participation jumps to 47 percent when the female is head of a household, significantly above the 21 percent for females who are not heads of households. Similarly in Uruguay, the probability is 66 percent for female household heads and 34 percent for nonhousehold heads. Residence is another significant factor affecting women's decision to participate: Women in urban areas also have a much higher probability of formal sector participation than their rural counterparts.

Discrimination in the labor market. A woman's present and potential earnings—and her perceptions of future employment prospects—will also play an important role in her decisions about entering or remaining in the labor market. This study shows that in all 14 Latin American countries, men, on average, earn more than women, even when women have the same human capital endowments, such as education and work experience. The size of the male pay advantage differs significantly across countries; in Mexico and Colombia, the advantage is small (around 16 percent), but in Argentina, Bolivia, Ecuador, and Jamaica, it is more than 40 percent.

The study used econometric techniques to examine what proportion of the wage gap is attributable to gender differences and what proportion is attributable to differences in human capital endowments. In most of the 14 countries, differences in human capital explain only about 20 percent of the observed wage gap. The remaining part is generally considered to be a gross measure of discrimination, although it may also reflect the effects of factors not included in the analysis on women's earnings (e.g., type of education or career interruptions). Even after correcting for selectivity effects, that is, the wage offer a woman gets relative to the value of her time at home, over 60 percent of the wage differential remains unexplained by differences in human capital endowments. These findings strongly suggest that the labor market rewards productive characteristics differently in a male versus a female worker. It is interesting that the proportion of the wage gap attributed to discrimination is substantially higher in Latin America than in industrialized countries, where up to two thirds of the gap is attributed to differences in human capital endowments.

Policy options

Economic efficiency and equity considerations are best served if men and women are treated as equal factors of production. There is no economic justification for treating equally qualified and experienced workers differently and, to the extent that such practices exist, concern for overall economic (allocative and distributional) efficiency calls for their elimination. Policies to reduce inequities and increase women's participation should focus on the following:

- First, in view of the finding that education strongly affects women's employment and pay, policies to increase women's access to education, including better-quality education, are warranted. Additional years of education increase the probability that a woman will participate in the labor force and that her lifetime earnings will be higher.
- Second, policies that relieve women from some of the burden of child rearing may facilitate their re-entry into the labor force after having children. Efforts to stimulate provision of adequate quality preschool and childcare facilities, for example, may make it easier for women to remain in employment. Improving women's ability to plan their families will clearly also assist them in completing their education and entering longer-term employment.
- Finally, the identification and repeal of labor legislation that is discriminatory in its application is likely to improve women's access to certain occupations and increase their earnings. Improved enforcement of the established equal opportunity and equal pay legislation will also work toward this end. ■

Increasing participation despite wage differential
(percent)

	Labor force participation 1950s and 1960s	1980s	Female to male pay 1980s
Argentina	27	37	65
Brazil	21	37	61
Chile	33	35	47
Colombia	22	48	65
Costa Rica	19	28	61
Ecuador	19	26	64
Guatemala	13	17	77
Honduras	14	18	61
Jamaica	36	36	58
Mexico	21	38	86
Panama	24	38	80
Peru	27	33	66
Uruguay	34	49	57
Venezuela	21	38	71

Source: Psacharopoulos and Tzannatos, 1991.

Poverty and Water Supply: How to Move Forward

JOHN BRISCOE

Nearly 1 billion people in the developing world are still without access to clean water for drinking and bathing, and 1.7 billion must contend with inadequate sanitation facilities. World Bank experience shows that new approaches are urgently needed—including changed roles for government, the private sector, and users' groups; and, paradoxically, levying higher charges.

A daily occurrence in the pueblos jovenes of Lima: A poor family, living in an illegal squatter settlement, waits for the water truck to arrive. When it does, the family members fill a few buckets with water of dubious quality, paying $3 per cubic meter, which often amounts to 10 percent of household income. Because the price is so high, they use little water, cutting down, particularly, on "discretionary uses," such as washing and bathing. They defecate in a fly- and insect-infested open toilet. The economic, health, and human consequences of these miserable sanitary conditions are tremendous. As a result of diarrhea and other hygiene-related diseases, for example, almost one in ten children dies before its first birthday.

Five miles away in the upper-class district of Miraflores, the situation could not be more different. Elegant houses have dishwashers, washing machines, and, in a city where it never rains, luscious gardens that are watered several times a day. The publicly run water supply company is supposed to charge its customers about 30 cents for a cubic meter of treated water available on tap in the house, but the actual amounts paid are much lower. Many households pay a low flat rate because the meters do not work or are not read, and many simply ignore their bills.

With variations of degree and detail, the Lima story—and the challenge implicit in it—is one that faces most developing countries:

- In many cities of the developing world, large numbers of poor people depend on water vendors, paying at least ten times what a middle-class person pays for a liter of water;
- At the end of the 1980s—the International Water Supply and Sanitation Decade—the number of urban residents without an adequate water supply was about the same as at the beginning of the decade; and
- Most poor people, in both towns and villages, do not have an adequate excreta disposal system.

This article takes a look at why past policies have failed and, drawing on World Bank studies, which new policies appear promising.

Shortcomings of past approaches

For decades, governments have tried to upgrade water quality and sanitation services by using public funds to invest in water and sanitation services. On the surface, this approach seems both sensible and humane. To the poor, it holds the promise of better services at lower cost, and the middle class are satisfied, since their water bills are small. To water company officials, it means funds for expansion and investment. To water company workers, it means secure jobs. To contractors and equipment suppliers, it suggests contracts will be awarded. And for politi-

For a more detailed discussion, see "The demand for water in rural areas: determinants and policy implications," by the Bank's Water Demand Research Team, World Bank Research Observer, *Vol. 8, No. 1, January 1993, and the Bank's* World Development Report 1992, *Chapter 5, by the author.*

cians, it means largesse to distribute to constituents.

In a few developing countries (including Botswana, the Republic of Korea, and Singapore), the level of public administration is sufficiently high that the government can ensure that these competing interests are harmonized and efficient services provided to most people. For the most part, however, such large public investment schemes become a vehicle for the interests of powerful groups—the upper- and middle-class-consumers, the contractors, the workers in the water utility, and the politicians. The results are predictable:

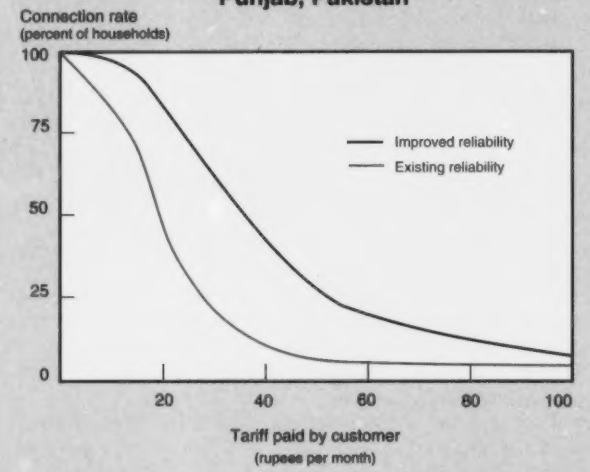
- Public resources are used on unnecessarily expensive construction projects (the combination of corruption and overdesign has been shown to quadruple the costs of sewerage infrastructure in some cities);
- Operating efficiency is very low (in Manila, 58 percent of water produced by the utility is not accounted for);
- Employment in the public companies is maintained at very high levels (over 30 workers per thousand connections in most developing country utilities versus about five in an efficient developing country operation); and
- Subsidies for water and sanitation are highly inequitable, especially for sewerage and especially in poorer countries. This is underscored by a recent study in Latin America that compares the subsidies accruing to the poorest 20 percent of the population with those accruing to the richest 20 percent. For water, in a poor country (the Dominican Republic), the poorest segment receives a subsidy that is only 29 percent of that received by the richest segment. In a middle-income country (Costa Rica), however, the figure is 75 percent. For sewerage, the figures are 13 percent for the Dominican Republic and 59 percent for Costa Rica.

In most cases, these inefficiencies are crippling, leaving no money to extend services to the unserved—almost always the poor. Thus investments designed in the name of the poor often end up providing them with nothing, but since they cannot do without water, they pay an exorbitant price, both in money and health.

The poor are willing to pay

What alternative approaches are there? Many governments and donors have responded to this predicament over the years by deciding that the poor should be provided with a lower level of services, as the costs of conventional services in industrialized countries (piped water in the house, and waterborne sewerage) are too high. The standard "appropriate technology" package has included water from a shared water point (either a handpump or a public standpipe) and an improved pit latrine.

How reliability of supply affects willingness to pay for piped water: Punjab, Pakistan



Source: World Bank Water Demand Research Team (forthcoming).

But while reducing costs is, indeed, an indispensable element if the poor are to be served, there are two serious flaws in this response: It ignores the inefficiencies and inequities in the existing system, and it is paternalistic. Little, if any, account is taken of what services (poor) people want, and how much they are willing to pay.

As it turns out, both research and practical experience increasingly show that in many circumstances—far more than had previously been thought—poor people want and are willing to pay for services of a relatively high quality, and they will pay substantially more if the service is reliable (see chart). This is underscored by a recent Bank study of Brazil, Haiti, India, Pakistan, Tanzania, and Zimbabwe, which revealed four types of rural communities:

- *Type I Communities: willingness to pay for private connections is high and willingness to pay for public water points is low.* This surprisingly large group probably includes many communities in Southeast Asia, South Asia, Latin America, the Middle East, and North Africa. The appropriate strategy is to offer and even encourage (specifically by amortizing connection costs into monthly water bills) private connections, recover all costs via the tariff, and deliver a reliable service. In these communities, public taps can provide free water without affecting the demand for private taps.
- *Type II Communities: only a minority of households are willing to pay the full costs of private connections, but the majority are willing to pay the full costs of public water points.* With a heavy reliance on public water points, there must be some charge for water from these to finance the system. Kiosks appear to be an attractive and flexible option in many settings. Those who wish to have house connections should be able to do so, but must have metered connections and must pay the full cost. Many of the better-off communities in Africa and poorer communities in Asia and Latin America probably fall into this category.
- *Type III Communities: households' willingness to pay for improved service is high, but not enough to pay the full costs of an improved service.* These are typically arid areas in South Asia and Africa. Willingness to pay for improved water service is high (as a proportion of income), but the costs of supply are so steep that improved systems cannot be built and operated without subsidies. If transfers are available from the government or from foreign donors, the community chooses to spend some of the funds on an improved water supply. The primary services offered are public taps, wells, or boreholes, although metered yard taps should be allowed where possible, with tariffs set to recover full costs.
- *Type IV Communities: willingness to pay for any kind of improved service is low.* These are typically poor communities in which (a) traditional water supplies are considered more or less satisfactory by the population, or (b) water supply is seen as the financial responsibility of the government. For the time being, the appropriate rural water supply policy is simply to do nothing, although once government paternalism ceases, those who fall in (b) might express a willingness to pay, thereby becoming a Type II community.

Indeed, this type of movement from a "low-level equilibrium trap" (in which a low level of services is provided, willingness to pay and, thus, revenues are low, and the operation consequently deteriorates) to a "high-level equilibrium" (in which users get a high level of

service, pay for it, and maintain the desired system) is exactly what happened in rural northeast Thailand over a 20-year period. Early project failures with handpumps, and then motorpumps, were initially attributed to technologies too complex to maintain and the inability of the villagers to pay for improved supplies. But gradually it became clear that the main problem was a failure to offer the villagers the service they wanted. Subsequently, yard-taps were allowed, with the users paying the full costs of connection—treating the poor as "Type I" instead of "Type IV." The project was a success and the low-level cycle broken.

The story is much the same in most urban areas, both for water and, to the surprise of many, sanitation. Experience shows that people living in dense settlements are willing to pay a substantial amount for the removal of excreta and sanitation from the vicinity of the household. (They are not, however, typically prepared to pay for treatment and safe disposal. Public funding should, accordingly, be applied primarily to treatment and disposal, services that have wider communal benefits.)

In Orangi, a squatter settlement of Karachi with severe sanitation problems, over half a million people have self-constructed, self-financed, and self-maintained water-borne sewers (see box). In low-income urban areas in northeast Brazil, households were given the option of low-quality services at low cost, and modified sewerage systems at moderate cost. Virtually all families chose the latter option and have continued to pay the agreed-upon charges and meet their obligations for maintaining the network of feeder sewers.

One caveat on this general theme, however, is that it is not always simple to judge what poor households might consider relatively high levels of service. Detailed assessments of the demand for sanitation in Kumasi, Ghana, and Ouagadougou, Burkina Faso, for example, have shown that poor families consider a ventilated improved pit latrine to be a comparable level of service to a water-borne sewerage system, probably because they perceive the simpler, more autonomous technology to be more reliable.

Innovative sewerage in a Karachi squatter settlement

In the early 1980s, when Akhter Hameed Khan, a world-renowned community organizer, began working in the Karachi slums, the streets were filled with excreta and waste water, making movement difficult and creating enormous health hazards. The local residents asked him to persuade the Karachi Development Authority (KDA) to provide a traditional sewerage system for free, as it did (or so they perceived) to the richer areas. But after months of petitioning the KDA, he realized that this would never happen.

Dr. Khan then turned to the community to help him find alternatives, a step he would later describe as the most important thing he did in Orangi—liberating the people from the demobilizing myths of government promises. With a small amount of core external funding, the Orangi Pilot Project (OPP) was started. The goal: to make the desired sewerage system affordable and to develop organizations that could provide and operate the systems.

On the technical side, the achievements of the OPP architects and engineers were remarkable and innovative. Thanks partly to the elimination of corruption and the provision of labor by community members, the costs (for an in-house sanitary latrine and house sewer on the plot, and underground sewers in the lanes and streets) were cut to less than $100/household.

The organizational achievements were equally impressive. The OPP staff played a catalytic role—explaining the benefits and technical possibilities to residents, conducting research, and providing technical assistance. The households financed their share of the costs, participated in construction, and elected lane managers (representing about 15 households), who, in turn, elected neighborhood committees (typically around 600 houses), which manage the secondary sewers.

As the power of the OPP-related organizations increased, they were able to convince the municipality to provide funds for the construction of primary and secondary sewers. In the end, the OPP has led to the provision of sewerage to over 600,000 poor people in Karachi, besides inspiring at least one other municipal agency in Pakistan to try the same approach.

An innovative approach

Clearly, the way forward is to give people choices. This means switching from a supply-driven mentality to one in which households—rich and poor alike—are offered a menu of levels of service, with associated price tags. To do so, suppliers will have to take on the challenges of minimizing costs and expanding the range of services available. And the government can help by creating the right enabling environment.

Minimizing costs. Poor people want and are willing to pay for good services. What they cannot and should not pay is a premium for overdesigned and inefficiently delivered services. The key to minimizing costs is incentives and accountability. Most public utilities in developing countries have few incentives to reduce costs and are high-cost providers of services. In Bogotá, Colombia, for example, the unit costs of those parts of the billing system contracted out to private companies are one fifth of those handled by the public water supply company.

Offering a greater range of services. This is a vital element of a demand-driven strategy. In some instances, it will mean offering a quite different type of service—say, an improved pit latrine as an alternative to a sewer. In others, it will mean developing options in which small reductions in the level of service result in large cost reductions. These effects can be very dramatic. For example, the modified sewers in Orangi cost about one tenth of the conventional sewers provided by the Karachi Development Authority.

Rethinking institutional arrangements. But it will be difficult to reduce costs and expand the menu if the various actors lack the incentives for providing these services. A starting point for the assessment of any arrangement, then, is to assess the interests of particular stakeholders, and the opportunities they have for pursuing these interests.

- *Users.* Rich and poor users alike have an interest in getting the services they want at the minimum possible cost. Accordingly, where the institutional environment is such that subsidies can be obtained through lobbying, powerful interest groups will inevitably lobby for such subsidies.
- *Providers of finance.* Where this is public finance, the requirements for returns on capital are often weak, with, consequently, relatively little attention to using such capital efficiently. Where this is private finance—whether it be for tanker trucks in the pueblos jovenes of Lima, or for the water supply in Abidjan, Côte d'Ivoire—the investors correctly expect a reasonable return on their investment.
- *Utility staff.* In the private sector, the performance of managers is largely in terms of the returns they secure on investments. They thus have a strong interest in efficiency (and innovation that will result in efficiency). Public utility managers, however, are often political appointees, who inevitably give a high weight to serving the interests of the politicians that appointed them. Professional utility workers are often strongly influenced

by conservative "professional standards." And nonprofessional utility workers, who often receive their jobs as a result of political patronage, tend to become an effective political bloc. The effects are almost universally detrimental to performance. A widespread problem is that large investments generate opportunities for utility staff to supplement their formal incomes through kickbacks.

• *Politicians.* In an effective political system, politicians have a central role in articulating priorities and directing resources to programs addressing these priorities. In São Paulo, for instance, progressive politicians played a major role in ensuring that a technocratic water supply agency provided services to the poor (see box). But there are enormous dangers in giving politicians the ability to directly influence the operations of service providers, for instance, by setting personnel policies and appointing staff.

Thus, there are no pre-defined, ready-made, universal solutions. But, clearly, suppliers need incentives to reduce costs and be accountable to users. The necessary restructuring will often reduce the direct role of public agencies as a supplier of services, and increase the roles of the private sector, NGOs, community groups, and users themselves.

Private sector involvement in the water sector is increasing rapidly, in both industrial and developing countries. SODECI, the privately run utility in Abidjan, is considered one of the best-run water companies in Africa. Guinea, which recently let a lease contract for supplying water to its principal cities, experienced dramatic improvements in the financial condition of the utility in just the first 18 months as a result of raising the efficiency of bill collection from 15 percent to 70 percent. EMOS, the utility that serves Santiago, has used private sector contracts for functions such as meter reading, pipe maintenance, billing, and vehicle leasing, and is one of the most efficient utilities in Latin America.

The government, however, has a vital role to play by devising the rules of the game, with special attention to protecting the public from potential abuse of monopoly power. It must, therefore, concentrate on the things that it, and only it, can do. Its job is to define and enforce an appropriate legal, regulatory, and administrative framework. This includes tasks as fundamental and diverse as: rewriting legislation so that water markets can come into existence; rewriting contract laws so that the private sector can participate with confidence; building a capacity for environmental and, where appropriate, economic regulation; and developing financial mandates for utilities that encourage conservation.

The way forward

Providing water and sanitation services to the poor in developing countries is a daunting challenge. Costs are rising as plentiful sources of water of adequate quality become more difficult to find. Exacerbating matters, over the next 40 years, the urban population in these countries will rise threefold, and the domestic demand for water fivefold.

For the poor, the paternalism of the past has meant a large number of unfulfilled promises and continued misery. The worst of all possible worlds is that many poor people remain unserved. Better, but not yet good, is a situation in which the poor are provided services but at unreasonably high costs, because of the inefficiency and inertia of the supply institutions. The ideal is that they are provided services that they want and are willing to pay for, by institutions that have incentives to be efficient and responsive. In a word, what poor people need is not charity but a choice of services at a fair price.

In summary, as argued in the Bank's *World Development Report 1992,* large gains—in environmental quality, equity, and direct economic returns—can be realized by adopting an approach that comprises four key elements: (1) managing water resources better; (2) providing, at full cost, those "private" services that people want and are willing to pay for (including water supply and the collection of excreta and wastewater); (3) using scarce public funds primarily for those services (treatment and disposal of wastes) that provide wide communal benefits; and (4) developing flexible and responsive institutional mechanisms for providing these services, with a larger role for community organizations and the private sector.

The good news is that many developing countries are undertaking reforms along these lines. ■

Participatory politics and water in São Paulo

For the residents of the Brazilian city of São Paulo, the 1980s meant extraordinary progress in the provision of water supply and sanitation services. At the start of the decade, just 32 percent of favelas (low-income, informal settlements) had a piped water supply, and less than 1 percent had a sewerage system. But by 1990, these figures had jumped to 99 percent and 15 percent, respectively! How was this possible? Interestingly enough, the story is one of how the rules of the game change as political participation by the poor increased.

Up until the early 1980s, the state water utility serving São Paulo—known as SABESP—carried out its duties in a narrow, technocratic manner. That meant not providing services to the favelas—despite community pressures to do so—as the settlements were not "legal" and did not permit the provision of services according to the SABESP's conventional technical standards.

This left a void for a small municipal agency, called COBES, to fill. And it did, by experimenting with new technical and institutional ways of providing water and sanitation services to the poor. On the technical side, this involved reducing the cost of providing in-house services by using plastic pipe and servicing narrow roads where access was limited—rather than just providing "second-class" service. On the institutional side, this meant the community assuming significant responsibility for facilitating community relations and supervising the contractors' work.

But with the emergence of democratic politics in the early 1980s, the picture changed, reflecting the growing pressures on SABESP to serve the favelas. Part of the reason was that the community organizations strengthened their impact by channeling their efforts through the municipal agencies and through responsive officials and politicians (including the mayor and governor). In addition, since COBES had shown how it was, in fact, possible to serve the favelas, SABESP had no option but to respond.

The lesson from São Paulo is that democratic politics can play a fundamental role in both allowing the demands of the poor to be expressed and transforming a sophisticated technical agency from being part of the problem to part of the solution.

John Briscoe
from South Africa, is Chief of the Water and Sanitation Policy Unit in the Bank's Infrastructure and Urban Development Department. He has a PhD in environmental engineering from Harvard University.

Combatting the "Greenhouse Effect"

BJORN LARSEN AND ANWAR SHAH

As countries worldwide debate how strongly to respond to the threat of global warming, cutting energy subsidies and levying carbon taxes rank high on the list of possible tools. Recent World Bank studies show that getting energy prices right makes good economic as well as environmental sense, and a modest domestic carbon tax would be appropriate for a large number of countries.

We are still no closer to answers on whether the buildup of "greenhouse" gases in the atmosphere could trigger a significant warming of the earth's surface. Nor do we know with any precision what the social and economic consequences of global warming might be. Yet countries all over the world are increasingly showing a willingness to act now, rather than wait for further scientific evidence:

- At the June 1992 "Earth Summit" in Rio de Janeiro, more than 150 countries signed a treaty aimed at stabilizing greenhouse gases—mainly carbon dioxide (CO_2), which is by far the largest contributor to the greenhouse effect.
- Most industrial countries have adopted national targets of stabilizing CO_2 emissions at 1990 levels by the year 2000.
- Between January 1990 and January 1991, Finland, the Netherlands, and Sweden imposed "carbon taxes"—that is, taxes on the carbon content of fossil fuels.
- The European Community (EC) is considering levying a Community-wide tax on both carbon and energy in general.
- Many developing countries are beginning to weigh the various options , because although industrial countries account for around 43 percent of total CO_2 emissions from fossil fuel consumption, the developing world is fast contributing an increasing proportion.

But given the uncertainty surrounding the likelihood and possible consequences of a global warming, what steps should nations take that they could at least justify on economic or local environmental grounds? This is the question the Bank tried to answer in two recent studies, one on the potential benefits of removing energy subsidies and the other on the desirability of carbon taxes.

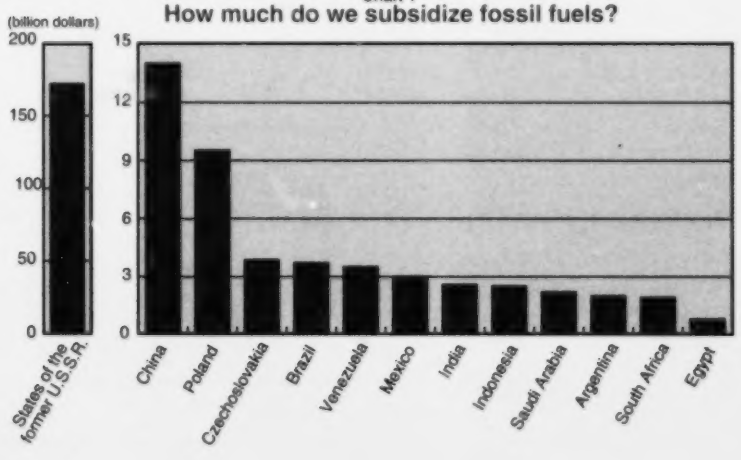
Pricing energy properly

Economists have long argued that subsidizing energy distorts consumption and production decisions, hurts government revenues, and harms efforts to protect the environment. Yet such subsidies are pervasive in emerging market economies and developing nations. How much do these subsidies add up to? Our study shows that global annual fossil fuel subsidies exceed $230 billion—roughly 25 percent of the total value of world fossil fuel consumption at world prices—with subsidies to petroleum products accounting for 55 percent of total world subsidies; coal, 23 percent; and natural gas, 22 percent.

The biggest subsidizers in dollar terms are the states of the former U.S.S.R. (accounting for as much as 75 percent of world subsidies), China, and Poland (see Chart 1). Indeed, domestic prices are only 10 percent of world prices in the states of the former U.S.S.R., while domestic prices are much higher than world prices in industrial countries (see Chart 2). Other large subsidizers include a number of energy exporters (Venezuela, Mexico, Indonesia, Saudi Arabia, South Africa, Argentina, and Egypt) and a few energy importers (Czechoslovakia, Brazil, and India.) Some smaller energy exporting nations (Ecuador and Peru) also subsidize most petroleum products. But most smaller Central and South American, as well as a number of Asian nations (Myanmar, the Philippines, Sri Lanka, and Thailand), tend to tax gasoline and price fuel oils close to world prices.

If these huge subsidies were removed, would it really make that much difference for

Chart 1
How much do we subsidize fossil fuels?



greenhouse gas emissions? The answer is yes, although not by as much as many might hope. We found that the removal of fossil fuel subsidies could reduce annual carbon emissions by nearly one third in the states of the former U.S.S.R. in about ten years (see Chart 3). For most developing countries, however, the reduction would be more moderate, around 10–20 percent. In total, global emissions would drop about 9 percent. But this drop in consumption would be expected to reduce world prices of fossil fuels, inducing increased consumption and higher carbon emissions in nonsubsidizing countries by as much as 4 percent of global emissions. This means that net global carbon emission reductions from the removal of subsidies would be about 5 percent.

This 5 percent figure may not seem like much, but our calculations show that industrial countries would have to adopt a $60–$70/ton carbon tax to achieve an equivalent global reduction. Such a tax would reduce emissions by about 20 percent in industrial countries, or 9 percent of global emissions, ignoring changes in world energy prices. But if the price changes were included, the emission reduction in industrial countries would be only 13 percent, or 5 percent of global emissions.

As for the welfare implications—that is, the impact of relative price changes on real incomes—both subsidizing and nonsubsidizing countries would be affected. This would occur because of (1) the improved efficiency of production and consumption decisions from subsidy removal, and (2) the expected fall in world prices if subsidy removal induced a sufficiently large reduction in consumption. The first component is expected to be positive for all countries, and the second would be positive for importers but negative for fossil fuel exporters. Thus, if losses in export revenues were larger than the gains stemming from more efficient production and consumption decisions, the net welfare effect would be negative for exporters.

Our study shows that the states of the former U.S.S.R. would see their welfare increase by $22 billion, on top of local and global environmental gains from reduced fossil fuel consumption. The large net fossil fuel importers—Brazil, Czechoslovakia, India, and Poland—would see their welfare increase by more than $2 billion. Other importing developing countries would also experience welfare gains, because of lower import prices. Of the net exporters, welfare effects in Saudi Arabia would be a negative $1.5 billion, and in the range of a negative $150–$350 million in Egypt, Indonesia, Mexico, and Venezuela. But Japan, the United States, and Western Europe would see their welfare increase by $15 billion, because reduced fossil fuel prices imply lower import prices.

In sum, adjusting subsidized energy prices to world prices is the first step in an environmentally responsible and fiscally prudent development strategy. The emerging market economies and developing nations that adopt such policies sooner rather than later will reap rich economic gains, besides helping the global environment.

Global carbon tax

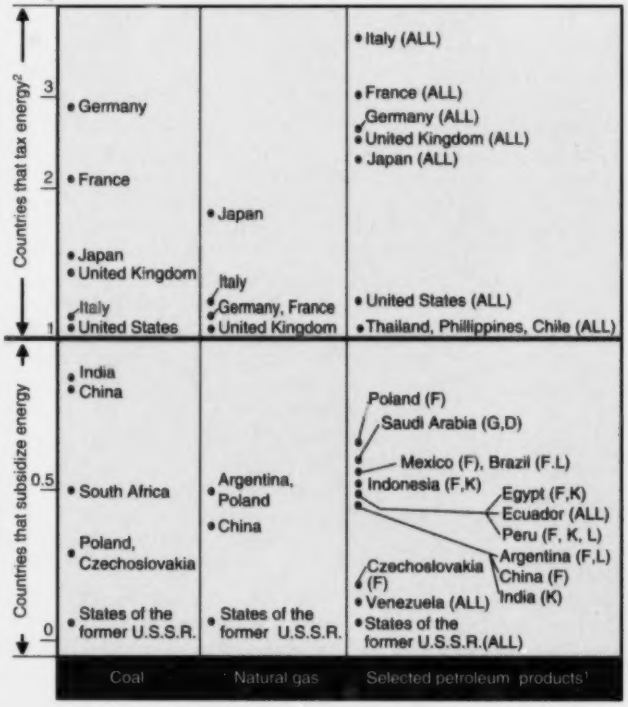
Given that carbon emissions contribute nearly three fourths of the long-run warming potential from all greenhouse gases, a global carbon tax has been advocated in recent years as the single most important way for the international community to combat global climate change. The arguments in its favor are several. When properly implemented, it can be a low-cost insurance against a potentially large environmental threat; it is more desirable than an energy tax, because it better targets carbon emissions; and it would represent a more flexible, lower-cost alternative to regulatory responses—in fact, some studies show that there would be substantial cost savings of a move from regulatory responses to market-based incentives.

But most global carbon tax regimes in practice appear unworkable, in view of the difficulties of getting nations to agree on (1) a common framework for determining the level and base of such a tax; and (2) institutional arrangements for tax collection and administra-

Chart 2

How large are energy subsidies?

(Ratio of domestic price to world price)

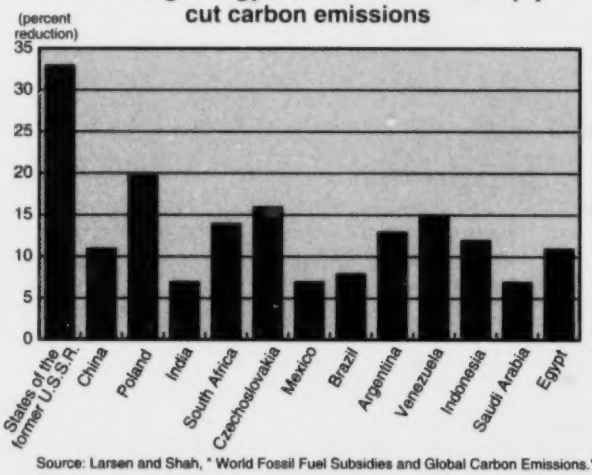


[1] For developing countries, selected petroleum products are mainly fuel oils (gasoline is often taxed and in those cases not included). For industrial countries, however, all petroleum products are included. Petroleum products: ALL–weighted average of all petroleum products; F–fuel oils; K–kerosene; L–liquified petroleum gas; G–gasoline; D–automotive diesel.

[2] Difference between domestic and world prices is due to both taxes and other distortions.

Chart 3

Removing energy subsidies would sharply cut carbon emissions



Source: Larsen and Shah, "World Fossil Fuel Subsidies and Global Carbon Emissions."

Low carbon taxes make sense

(costs and benefits of a $10/ton carbon tax for selected countries, 1987)

	Pakistan	Indonesia	India	United States	Japan
Fossil fuel consumption (million dollars)	3,345	5,330	17,206	346,502	126,100
Carbon emissions					
(millions of tons)	13	26	148	1,246	23
(tons per capita)	0.12	0.15	0.18	5.0	1.9
Price of carbon (per ton in dollars)	253	200	117	199	538
Energy taxes (dollars/ton of carbon)	65	0	11	27	105
$10/ton carbon tax revenues (million dollars)	132	266	1,482	12,461	2,371
Price increase from $10/ton carbon tax (percent)					
Coal	36	18	26	18	9
Petroleum products	3	6	2	3	1
Natural gas	3	4	3	4	1
Efficiency costs of a $10/ton carbon tax as percent of carbon tax revenues:					
Case A. Revenue neutral change by equal yield reductions in personal income taxes	−17.5	−1.5	−8.7	−8.4	−11.4
Case B. Revenue neutral change by equal yield reductions in corporate income taxes	+9.0	+6.7	+16.9	−6.2	+9.0
Case C. Raising additional revenues with no change in existing taxes	−17.7	−1.5	−8.8	−10.2	−12.3
Case D. Raising additional revenues with no change in existing taxes but accounting for subsidies	−17.7	+0.4	0.6	−10.2	−12.3
Efficiency costs of carbon reductions (dollars/ton) (efficiency costs in Case C to tons of carbon reductions)	39	4	7	14	79
Benefit–cost ratios associated with the impact of carbon taxes on local pollutants:[1]					
High	1.8	17.9	9.5	11.2	1.3
Medium	1.6	12.9	7.5	8.7	1.0
Low	0.5	2.2	1.9	2.1	0.2

Source: Shah and Larsen, "Carbon Taxes, the Greenhouse Effect, and Developing Countries."

[1]Includes sulfur dioxides, nitrous oxides, and particulate matters. "High" is based on a Norwegian study by Glomsrod et al (1990); "Medium" is based on a US study by Bernow and Marron (1990); "Low" is based on a US study by the US Environmental Protection Agency and Energy and Resource Consultants, Inc. (the "low" study does not include chronic health effects of nitrous oxides emissions).

tion, as well as revenue distribution among nations.

Thus, the prognosis for the acceptance of a global carbon tax regime is slim, given the high degree of uncertainty surrounding global warming, the anticipated trade-offs with growth, and the inability of a uniform tax to take into account the differing local pollution problems at the sectoral and national levels. The critical question then becomes whether a strong enough case can be made for the adoption of a national carbon tax on economic and local environmental grounds.

National carbon tax

The idea of imposing a national tax on carbon—the first tax ever to be aimed specifically at global warming—has found increasing favor of late, perhaps because governments would welcome a politically popular way of raising revenue. Such a tax would fall most heavily on the fossil fuel with the greatest carbon intensity per unit of energy. This would mean a relatively higher percentage price increase for coal than for alternate fuels (petroleum and natural gas), because coal not only has the highest carbon content per unit of energy but it also has the lowest price. For example, a $50/ton carbon tax in Western Europe would on average increase end-user prices of coal by 35 percent, natural gas to households by 8 percent, and gasoline by 5 percent. This compares with price increases in the United States of 90 percent for coal, 13 percent for natural gas, and 12 percent for gasoline.

The carbon-cum-energy tax now being considered by the EC would start at $3/barrel of oil equivalent and increase by $1/barrel each year in real terms until it reached $10/barrel (roughly equivalent to a carbon tax of $70/ton) in the year 2000. Since the tax is supposed to be "fiscally neutral," governments would be expected to lower other taxes by a similar amount. But the chances of the EC adopting this tax anytime soon look poor, as the EC might well wait for others (the United States and Japan) to act, worrying about being at a "competitive disadvantage"—although to date no empirical work has been done to support such a fear.

Revenue potential. The revenue potential of carbon taxes is extremely large. Indeed, a moderate $10/ton carbon tax, if imposed individually by all nations, could raise $55 billion just in the first year. For some countries (China), such revenues could account for about 2 percent of GDP, enough to wipe out the central government's budgetary deficit. In countries where 1987 per capita GDP was less than $900, such a tax would yield revenues worth an average of more than 1 percent of GDP and 5.7 percent of government revenues. For the OECD countries, the numbers are lower, but still significant—0.21 percent of GDP and 1 percent of government revenues. Moreover, carbon taxes tend to be easier to administer in developing countries than personal and corporate taxes and thus less prone to tax avoidance and evasion.

Distributional implications. The literature on industrialized countries typically portrays carbon taxes as regressive, because outlays on fossil fuel consumption as a proportion of current annual income falls with income. But a recent study (by MIT Professor James Poterba) using US data shows that carbon taxes are considerably less regressive relative to annual consumption expenditures than to annual income, at least for industrial countries. Moreover, there is reason to believe that the same holds true for the rest of the world, although for quite a different reason: in developing countries, institutional factors also play an important role.

Auguring for progressivity, or at least low regressivity in the developing world, are:

- If there is a significant degree of foreign direct investment from countries where investors are allowed foreign tax credits against domestic liabilities, then a significant tax burden could be passed on to foreign treasuries, producers, and consumers;
- If price controls apply, producers often cannot pass the tax on to consumers in terms of higher prices;
- With binding import quotas or rationed foreign exchange, a tax would reduce the excess profits made by the privileged class.

Auguring for regressivity would be factors such as full market power. In this situation, the producer could increase product prices to fully pass on to consumers the carbon tax.

As it turns out, in most developing countries, there is some combination of the above elements, creating a situation where taxes can be only partially shifted to consumers. This means that a carbon tax would either be progressive or much less regressive than most people believe. Further, it is likely to be regressive only for the lowest income groups, which could be protected through direct subsidies or alternate measures. In addition, the overall tax structure could be made even less regressive by using the carbon tax to reduce personal income taxes (the latter are not necessarily progressive because of high tax evasion and urban-rural migration).

Efficiency costs. By their very nature, taxes in general distort decision making, creating losses for both consumers and producers. But can carbon taxes contribute to economic efficiency by replacing other, more distortionary taxes? To answer this question, we examined four scenarios, using a sample of five countries (India, Indonesia, Japan, Pakistan, and the United States). Welfare loss (efficiency costs) was measured in terms of

additional income required to make the consumer indifferent to a package of policy change, not counting any benefits of reduced global warming or local pollutant reductions.

Case A: Revenue neutral introduction of a $10/ton carbon tax that displaces a personal income tax. In this case, we found an overall deterioration in welfare, ranging from a low of 1.5 cents per dollar of carbon tax revenues in Indonesia to a high of 17.5 cents in Pakistan (see table). The differences stem mainly from variations in pre-existing fossil fuel taxes, labor income taxes, carbon prices (market value of total fossil fuel consumption divided by carbon emissions), and energy price changes from the carbon tax.

The study indicated that a country with a relatively low level of pre-existing energy taxes (Indonesia) would do much better than a country with a high one (Pakistan). Although energy taxes are even higher in Japan than in Pakistan, welfare loss is lower in Japan—mainly because of lower carbon reductions, which would stem from the very high pre-existing carbon price. The loss for India compares well with that for the United States, even though pre-existing taxes in India are much lower, since India has a high consumption of coal and thus its carbon price is only half that of the United States.

Case B: Revenue neutral introduction of a $10/ton carbon tax that partially replaces a corporate income tax. Under this scenario, with the major exception of the United States, the sampled countries would be better off—lending support to a widely held view that corporate income taxes are far more distortionary than labor income taxes, because higher corporate income taxes reduce investment. The estimated net welfare gain varies from a high of 16.9 percent of carbon tax revenues for India to a low of 8.7 percent for Indonesia. The US welfare loss—about 6.2 percent of carbon tax revenues, or 0.017 percent of GDP—may result from the country's relatively lower marginal taxation of corporate income.

Case C: Introduction of a $10/ton carbon tax to raise additional revenues, with no change in existing taxes. In this case, we assume that tax revenues are redistributed as a lump sum. Here, again, we find a deterioration in welfare. But the losses—ranging from a low of 1.5 cents per dollar for Indonesia (0.005 percent of GDP) to a high of 17.7 cents per dollar for Pakistan (0.07 percent of GDP)—although significant, represent only a small fraction of carbon tax revenues. The welfare losses for India, Indonesia, and Pakistan are only slightly higher than those obtained in Case A, because income tax evasion in these countries is pervasive, meaning that changes in the income tax would have little bearing on the labor supply. The difference in the two cases is larger for the United States and Japan because of the higher pre-existing labor income taxes and higher tax compliance.

Case D: Introduction of a $10/ton carbon tax to raise additional revenues, with no change in existing taxes but accounting for fossil fuel subsidies. In this scenario, the outcome depends on the level of existing subsidies, underscoring the point that efficiency costs of carbon taxes are overstated if subsidies are ignored. By incorporating existing energy subsidies into the analysis, the tax would not hurt aggregate welfare in India and Indonesia, where fossil fuel price subsidies are high.

Thus, these four scenarios show that a case for carbon taxes on efficiency grounds alone rests upon introducing them in a revenue neutral manner, either as a replacement for corporate income taxes or when fossil fuel subsidies exist. Such taxes do not fare so well as a substitute for personal income taxes, at least in countries with pre-existing energy taxes and no subsidies.

Local environmental benefits. Economic benefits aside, however, can carbon taxes be justified on local environmental grounds, particularly through the reduced emissions of pollutants such as nitrous oxides, carbon monoxides, particulates (soot and smoke), and sulphur dioxides? To answer this, we compared the efficiency costs of carbon taxes to the potential health benefits of local pollutant reduction in the same five countries. We determined the benefits by using estimates from three studies, adjusted by purchasing power parity indexes to afford a rough measure of comparability across countries.

Here, too, we found evidence that developing and developed countries alike stood to gain, especially if they already had low or nonexistent energy taxes. Our calculations suggest that Indonesia, India, and the United States could benefit substantially from a carbon tax on local environmental grounds alone, as benefits exceed costs under all three health benefit estimates (see table). For Pakistan and Japan, however—in view of high pre-existing energy taxes and thus high welfare costs of carbon taxes—the benefit-cost ratios are significantly lower.

Policy options for the 1990s

Faced with the uncertainty of global warming and the economic costs that concrete actions to stem global change would impose on this and future generations, policymakers must find tools that can be justified purely on economic and local environmental considerations. For any nation with energy subsidies, the first priority must be the elimination of these subsidies. This would release $230 billion in revenues for developing and emerging market economies, reduce global carbon emissions by 5 percent, improve the allocation of economic resources, and make scarce public funds available for development projects.

For countries that have eliminated energy subsidies but have little or no taxation of energy, or for countries that cannot overcome political obstacles to removing the subsidies, small carbon taxes would be in order. Such taxes would discourage fossil fuel consumption and reduce local pollution, while raising large amounts of revenues at lower administrative costs than the prevalent taxes entail. They would also impose lower economic costs for the society as a whole than do corporate income taxes, without unduly hurting the poor.

Thus, eliminating energy subsidies and levying small carbon taxes are shaping up to be critical elements of an environmentally responsible development strategy for the 1990s. ■

Bjorn Larsen
from Norway, is a Consultant with the Environment Division of the Bank's Europe and Central Asia, Middle East, and North Africa Department.

Anwar Shah
from Canada, is a Principal Economist in the Public Economics Division of the Bank's Country Economics Department. He has published widely on tax and expenditure analysis and transportation, environment, and macroeconomic policy issues.

This article is based on papers by the authors prepared as background for the Bank's World Development Report 1992. *For a fuller discussion, see "Carbon Taxes, the Greenhouse Effect and Developing Countries," (World Bank Policy Research Working Paper No. 957, 1992) and "World Fossil Fuel Subsidies and Global Carbon Emissions," (No. 1002), available from the* World Development Report *office.*

GUEST ARTICLE

Protecting the environment and pursuing profits are normally perceived as being at odds with each other. But Stephan Schmidheiny, a Swiss industrialist, has long disputed this view. In the summer of 1990, he was asked by Maurice Strong, the secretary general of the then planned "Earth Summit" in Rio de Janeiro, to develop a business perspective for the Summit and to interest fellow business leaders around the world in the concept of "sustainable development." Mr. Schmidheiny responded by forming the Business Council for Sustainable Development (BCSD), which brought together 48 chief executives of major corporations worldwide.

Shortly before the Summit opened in June 1992, the BCSD published a sort of business "manifesto"—a 350-page book called *Changing Course*. It called for a new partnership among government, business, and society, based on the recognition that "economic growth and environmental protection are inextricably linked, and that the quality of present and future life rests on meeting basic human needs without destroying the environment on which all life depends." Controversial proposals included greater reliance on economic instruments such as pollution taxes, and gradually abolishing subsidies for coal and electricity.

With the June 1992 Earth Summit now behind us, *Finance & Development* asked Mr. Schmidheiny, who served as the principal adviser for business and industry to Mr. Strong, what he thought of the outcome of Rio. What steps are next if private industry is to join hands with governments in ensuring that present needs are met in ways that do not compromise future generations and that make sound business sense?

The Business of Sustainable Development

STEPHAN SCHMIDHEINY
Chairman of the Business Council for Sustainable Development

It is impossible to predict how historians will judge the Earth Summit in Rio. But among its many products, the United Nations Conference on Environment and Development (UNCED), to give it its official title, generated seven tons of waste per day, most of this consisting of discarded reports, drafts, bulletins, and memos. Given that the Summit's final documents were disappointing to most observers and participants, containing little that was concrete or innovative, this is an impressive amount of pollution.

Unfortunately, many of the issues that must be discussed in any informed debate on sustainable development—population, trade, security, and debt—were either not on the agenda or received only vague lip service. On the other hand, diplomats of virtually all governments spent months preparing for the conference, which necessitated learning the rudiments of sustainability. Over one hundred national leaders had to decide what the ideal meant to them and their people.

In the end, we may decide that the Summit's real value was in its long-term psychological impact, not the scant immediate legal or financial contributions. Indeed, we may look back to Rio as, not the beginning, but "the end of the beginning" of a change of course toward economic and political systems compatible with environmental realities. That process of beginning lasted two decades—from Stockholm (with the 1972 UN Conference on the Human Environment, the first time world leaders came together to consider the fate of the planet) to Rio.

As for my own view of the Summit, it is, quite naturally, tempered by a business perspective, and from that perspective, I believe Rio was a key turning point in human affairs. The United Nations and member governments finally summoned up the realism to include business in their deliberations, and business finally summoned up the vision to see that its open participation in such deliberations is in its own and the world's best interests.

To see what a breakthrough this is, one need only look at past conferences. Stock-

holm '72 attempted to solve environmental problems with virtually no representation from business—the primary polluter and primary user of resources. And countless conferences on "development" have sought ways to help poor countries progress without any real participation by business, the key creator of wealth, jobs, income, and opportunity. Of course, it must be admitted that business, in its meetings and conferences, has not traditionally shown any desire to get involved in environment and development issues, except defensively.

A conducive environment

Much of the debate at Rio centered on increased flows of development assistance. In a sense, this was understandable, as there is no doubt that sustainable development will require massive financing throughout the world, or that levels of development assistance must increase. But neither is there any doubt that aid flows will never be enough to get the job done.

Thus, the large amounts of money needed to effectively manage environmental resources in the developing world, lift people out of poverty, and provide for rapidly growing populations will have to come from economic growth, domestic savings, and wise investments at the national and international level. Foreign investment capital must be attracted, but today only a few developing countries are managing to do this. Of the 18 percent of foreign investments that flowed to developing countries in the second half of the 1980s, about 75 percent went to only ten countries—mostly in Asia and Latin America. Net capital inflows into Latin America rose from $9.6 billion in 1989 to $18.4 billion in 1990, and then doubled again in 1991 to $36 billion—a sharp upward trend that continued in 1992.

Latin America has benefited from new policy frameworks—in particular, legal and institutional changes—that served to strengthen the private sector. Typical actions included the elimination of most ownership restrictions on properties, other forms of deregulation and privatization, and the removal of trade barriers. Many countries in Latin America and elsewhere are finally beginning to clarify property rights, making them available to small farmers in a straightforward and streamlined manner. Clear property rights were a key ingredient in Zimbabwe's maize miracle in the early 1980s, and they have helped improve the productivity of small farms in Indonesia and Thailand.

Increasingly, we see that given the right signals and support, industrial and developing country businesses with common interests will seek out long-term partnerships with one another, a process that helps transfer skills and competitiveness across borders. But governments—in both industrial and developing nations—must clearly understand that private industry can be a force for sustainable development only when it is allowed to act as private industry should. That means not being saddled with public sector chores, such as creating jobs, and not being expected to operate on concessional terms, but being encouraged to internalize environmental costs.

The new partnership

When I spoke to the plenary in Rio, I found myself delivering a message that is inherent in *Changing Course*, but not as boldly stated as it should have been. I called for a bold new partnership between business and governments, noting that "business must move beyond the traditional approach of backdoor lobbying; governments must move beyond traditional over-reliance on command-and-control regulations."

In recent years, it has become increasingly obvious what sorts of actions are required of governments to move toward more sustainable forms of progress. Moreover, the sorts of steps required of business are ever more self-evident—that is, producing ever more goods and services using fewer resources and creating less pollution. But not enough attention has been focused on trying to work out how government and business can cooperate on the key tasks at hand.

Most of my recommendations here are for governments. This does not imply, however, that business does not need to change radically. Many companies are already becoming more "ecologically efficient" as they respond to a number of pressures: "green" consumerism; media emphasis on the environment; banks' greater willingness to lend to—and insurance companies' greater willingness to cover—companies that will not face big clean-up bills or lawsuits; internal pressure from employees; tougher regulations; new environmental taxes and changes; and plain old senses of corporate and personal responsibility. But business as a whole will not change for the better until the market frame-

work in which business operates sends different signals—signals that make economic and environmental excellence inseparable.

Reforming macroeconomic and political systems. One of the first tasks for developing country governments is to create free competitive markets, thereby improving efficiency and the allocation of scarce resources. The goal must be to attract investment from outside and create opportunities inside—particularly opportunities for members of the "informal" sector to both join in and thrive in the formal sector.

But macroeconomic reforms must be accompanied by political changes toward participatory democracy. Effective participation in political decision making and effective participation in market decision making appear to go hand-in-hand, eventually. The new democracies of Eastern Europe are seeking to establish open markets. And the citizens of the newly industrialized economies of Asia, having participated in business prosperity, are clamoring for increased democracy. Certainly effective environmental decision making requires a people free to organize themselves into pressure groups, a free media, and freedom to vote for new leaders. Also, as the real "environmental decision makers" are the people making daily decisions in forests, fields, and factories, then they must feel that they have a say in setting environmental rules.

"It is now time that business becomes involved ... in actively and thoughtfully charting the developmental and environmental paths of humankind."

The rules of doing business will be most efficiently changed if business leaders play a leading role in the process. At Rio, the BCSD released a lengthy report, largely put together by African business leaders, on the need for change in that continent, including many case studies showing how business is helping. BCSD members in Latin America produced their own book on how "the rules of the game" must be changed and how they will participate in that process. We have also encouraged the establishment of national BCSDs in several developing countries and hope many more are set up in the months and years ahead.

Pricing changes. Another urgent task—and this one applies to developed and developing countries alike—is to reform the fiscal systems in such a way that natural resources and pollution have more appropriate (usually higher) prices. Here the evidence increasingly shows that the answer lies in finding an optimal mix of regulations, self-regulation, and economic instruments.

The more forward-thinking governments are trying to develop economic instruments that better blend market realities and environmental realities (for example, pollution taxes and tradable permits). Such instruments are usually more efficient than command-and-control regulations (emission standards and mandated technical standards), although there will always be a role for these, particularly where health is threatened or damage may be severe and permanent. A few of the more forward-thinking companies are attempting to regulate themselves now, so as to avoid the necessity of being regulated by governments later.

But establishing this optimal mix will require public-private cooperation everywhere, particularly in the developing world. How could this work? One example might be in the area of regulation: Most developing countries either have too few or too unrealistic regulations, besides lacking sufficient trained regulators and enforcement capacity. Suppose multinational corporations, skilled in dealing with regulations in industrial countries, made available *pro bono* their expertise in working with regulators in developing countries. These companies might also help these governments establish regulations and economic instruments that are realistic and enforceable.

This would be advantageous for both the companies and the governments. Indeed, Eastern Europe has shown the tragedy that can result from a combination of rigorous but rarely enforced regulations. Governments, companies, and perhaps a multilateral organization like the UN Development Programme, or the World Bank's Global Environment Facility, might even develop a set of "model" baseline regulations that would be suitable for countries at different stages of development.

Redesigning national accounts. Another largely government job in which business should play a role is the development of integrated environmental and economic accounts to reflect both damages to and improvements in stocks of natural resources and in ecosystems. This would provide a better statistical data base for economic analysis and indirectly encourage better policymaking.

The task will not be easy, however, as demonstrated in two recent studies carried out by the UN Statistical Division and the World Bank, which highlighted problems of data availability, as well as conceptual and empirical valuation issues. In the case of Papua New Guinea, the researchers found that when depreciation of capital, including natural resources, was included in GDP calculations, economic growth from 1986–90 was reduced by between 1–11 percent, depending on the year chosen and the method used. For Mexico, the GDP reduction ranged from 11–23 percent. Nonetheless, the UN Statistical Commission is expected to give the green light to environmentally adjusted accounting at its February 1993 meeting.

Business could feed into this process by measuring environmental performance, conducting its own regular environmental audits and assessments of compliance, and periodically providing appropriate information to boards of directors, shareholders, employees, national authorities, and the general public. Given that such accounting may change their bottom line (that is, reduce profits and/or result in smaller asset balances), public pressure and the development of environmentally oriented accounting standards may be needed. The same accounting rules must apply to all companies.

Technology cooperation. The requirement for clean, equitable economic growth, especially in the developing world, remains the single greatest problem within the larger challenge of sustainable development. A cost-effective way to achieve this would be through business-to-business "technology cooperation," which focuses on the development of business, in the process building up the infrastructure, wealth-generating capacity, and competitiveness of a country. It works best through long-term partnerships that ensure that both parties benefit by commitment to the continued success of the project.

One critical way that technology cooperation helps developing countries is through the transfer of "software," which is just as important as the "hardware." Software here refers not only to the know-how, operating, and maintenance skills associated with the technology but also adaptations appropriate to the cultural context and experience of the receiving organization and the society that is going to use it.

But business-to-business technology cooperation calls for—indeed, in the poorest countries, demands—a new partnership between business and government. Private sector investment and development assistance, both bilateral and multilateral, should support long-term commercial financing and create

projects that are part commercial and part concessional. Government financing and business training schemes should support the necessary capacity building. It is easy to imagine five-way partnerships: a business in the North and a business in the South, a government in the North and a government in the South, and a multilateral, perhaps a UN, body helping to broker the cooperation.

Managing renewable resources. Finally, we come to farming and forestry, two areas where the BCSD is paying a great deal of attention, as they sustain the livelihoods of almost half this planet's people and have extensive, direct impacts on the environment. Too many farming activities in the industrial world and parts of the developing world are affected by subsidies that encourage damaging patterns of resource use. As a first step, distorting subsidies that encourage the overuse of such inputs as water, fertilizers, and pesticides, should be gradually removed.

In the developing world, farmers rarely have the political power or economic power appropriate to their numbers or their contribution to national economies. Empowerment certainly does not guarantee more efficient natural resource management; but powerless farmers have neither the means nor the motivation to get involved in the hard work of soil or water conservation, for example. On the development side, where farmers have gained access to markets, credit, improved seeds, and other inputs, crop yields have often increased dramatically.

As for forestry, about three quarters of the planet's forests have been brought under government ownership in the past two decades. Certainly, governments have an appropriate role to play in protecting and conserving important forest ecosystems in the form of national parks and other protected areas. However, governments have rarely proved themselves effective in running forestry enterprises for timber production. This is best left to the private sector. But if business is to replant forests, create plantations, and respect the ecological services of forests and the needs of all human inhabitants, they will need new systems of regulations and economic instruments. For example, the tax systems of many Scandinavian countries encourage the replanting of forests, even though the trees may take 100 years to mature, while the tax systems of many developing nations encourage forest destruction.

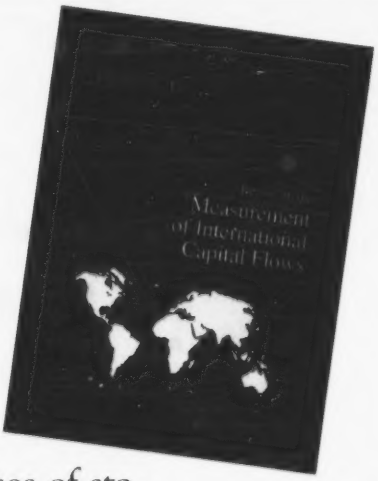
How to proceed

I am not in any of the above instances arguing for a "leave it to business" approach. Clearly business, by itself, cannot provide all the answers. But I do believe we have yet to define what business does best and what governments do best. And I do believe that given the present environmental and developmental crisis, we must sort this out urgently and then get on with cooperating in the business of sustainable development.

From my perspective, Rio was a success. It produced an agenda for change, and it focused the attention of leaders worldwide on some critical issues. It also produced the crucial breakthrough of bringing business into the development and environment decision-making arena. Business has always fueled development and affected the environment—using natural resources, producing pollution, developing and spreading technology, creating terms and paths of trade, and making possible both survival and progress. It is now time that business becomes involved—with governments and other nongovernmental organizations—in actively and thoughtfully charting the developmental and environmental paths of humankind. ■

The International Monetary Fund presents

Report on the Measurement of International Capital Flows



The report evaluates statistical practices relating to the measurement of international capital flows. In particular, the principal sources of statistical discrepancies in the component categories of the capital account in the global balance of payments are addressed.

Available in English. 128 pp. (paper) US$19.50 ISBN 1-55775-307-5 **Stock #RMICEA**

To order, please write or call:
International Monetary Fund
Publication Services
Box FD-204 700 19th Street, N.W.
Washington, D.C. 20431 U.S.A.

Telephone: (202) 623-7430
Telefax: (202) 623-7201
Cable Address: INTERFUND
American Express, MasterCard, and VISA credit cards accepted.

Attacking Air Pollution in Mexico City

GUNNAR S. ESKELAND

As Mexico City steps up its battle against air pollution, the city is trying to economize on polluting trips, as well as make cars and fuels cleaner. A carefully crafted program combines pricing and regulatory measures to stimulate these changes.

For the 15 million residents in Mexico City, air pollution levels are not only a nuisance but also a cause of health problems. Ozone levels systematically exceed by far the levels that result in inflammation and irritation, and the concentration of particulates causes breathing problems and premature deaths, particularly among the elderly.

The Mexican Government has moved quickly in recent years to attack the severe pollution problem. Acute crises have been handled by shutting down polluting factories, redirecting traffic, and closing off certain areas for motor vehicles. The authorities have also taken steps to reduce lead contamination, which is known to cause learning disabilities among children and hypertension among adults. Unleaded gasoline and catalytic converters have been introduced, and thousands of taxis, minibuses, and buses must either be replaced by new ones or retrofitted to be less polluting. All motor vehicles are required to pass an emissions test every 6–12 months. And gasoline prices have been sharply increased, discouraging consumption of the major pollution-creating good—essential in any rational pollution control program.

The challenge, however, is daunting. One of the Government's attempted solutions—the fall 1989 regulation requiring every car to stay off the streets a specified weekday—initially gave some relief but may actually have backfired, as many households responded by buying an additional car. Shifts in gasoline consumption indicate that the regulation may eventually have *increased* vehicle use and pollution—underscoring that such measures should only be used on a temporary emergency basis.

How, then, can a rational action program be put together? Which technical and behavioral changes can reduce the excessive flow of emissions? And if one knows the most cost-effective changes, should incentives or regulations be used to convince households and firms to adopt them? These are the questions we set out to answer.

Policy options

As in most major metropolitan areas, Mexico City's air pollution comes from industry, homes, fuel-based transportation, and natural sources (windblown soil)—all areas that the Government is targeting. Our analysis focused on the transport sector, which contributes about half of the city's total emissions. Even within this sector, the problem could be tackled on many fronts. Vehicles and fuels could be made cleaner, people could be convinced to drive less, and less-polluting modes of transport could be promoted. The latter would be especially useful in Mexico City, where private vehicles (cars and taxis) carry only 37 percent of total passenger kilometers, while emitting 68 percent of the sector's pollution.

It is useful to view the various options (cleaner cars, fewer trips) as competing suppliers of emissions reductions. From this perspective, to be efficient, pollution reductions should always be procured from the least-costly source (see box). Economic theory tells us that taxing pollution directly would conform with this prescription, since it would provide incentives to firms and individuals to pursue emissions reductions in the least-costly manner. But because Mexico City's sources of pollution are many and varied (buses, taxis, and private vehicles, all of varying ages), each vehicle's emissions cannot be monitored continuously, so it is not feasible to tax emissions directly.

This means that policymakers will have to use indirect instruments, which target proxies for emissions (indicators of how clean the car is and how much it is used). These indicators could be influenced by regulations (emissions standards) and market-based tools (fuel taxes). To choose, however, one needs to evaluate the social costs per unit of emissions reduction, an area to which we now turn.

Cleaner trips

If policymakers want to evaluate the various ways of making vehicles and fuels cleaner, they will need to know the economics of vehicle modifications—that is, what yields the most emissions reductions per dollar invested? For example, one possibility is to invest (or have car owners invest) in a catalytic converter that costs US$400 and reduces emis-

A town meeting

Public official: How should we best use our limited resources to cut pollution?

Engineer: Let's start with introducing unleaded gasoline and insisting that all taxis be new, with catalytic converters. Making old cars cleaner is more complicated, but it probably should be done, as so many people keep their cars a long time.

Economist: OK, but since we could also use this money in other ways to improve peoples' lives, let's make sure we do this as cheaply as possible. Let's see if we could convince people to economize on trips as well.

Public official: Fine, but people need to get to work. How would they manage, and how would you figure out which trips people can do without?

Economist: Well, they'll know better than us. People could carpool, walk, take public transportation, or choose lovers and employers in their neighborhood. As for gauging costs, one way to do that would be to tax gasoline. If people reduce travel owing to the higher cost of gasoline, we would know that those trips are not essential to them. Besides, the revenues could be used for other purposes.

sions by 95 percent. Whether this investment is attractive depends chiefly on the vehicles targeted. Experience demonstrates that the cheapest emissions reductions generally are found among the busiest vehicles, especially those driven mostly downtown during the day. Of course, if greater emissions reductions are desired, modifications must be sought for a larger part of the vehicle fleet, even if reductions become comparatively expensive.

We can visualize these trade-offs by looking at the chart, which shows the incremental costs when further emissions reductions are sought (the scientific basis for weighting contaminants according to toxicity is still weak, but an attempt has been made). In Mexico City, some technical measures, such as retrofitting high-use vehicles for liquefied petroleum gas and making service stations recover vapors, actually yield net savings. All the other measures ride up the curve. Emissions standards are at the lower end. These should be targeted at taxis first, as annual emissions reductions for them would cost only US$300 a ton, because of their higher annual mileage, compared with US$1,600 a ton for passenger cars. Mandatory inspection and maintenance programs for vehicles in use are in the middle, with costs rising as the standards are tightened. Improvements in the fuel mix are at the higher end.

But which tools should policymakers pick to make sure that these emissions reductions occur at the lowest possible cost? The chart also shows why sometimes regulations are best, and sometimes incentives. Take the case of fuel conversion. If compressed natural gas were provided at a lower price than other fuels, it would provide incentives to owners of high-use vehicles to convert. By contrast, such incentives could not be employed to stimulate the use of catalytic converters and unleaded gasoline, since cars without converters could also use unleaded gasoline. Thus, if a city wanted to force only high-use vehicles to become cleaner, it could use fuel prices to stimulate conversions to gas, but would have to rely on regulation (licensing of taxis) to stimulate the use of catalytic converters. Moreover, both programs may be accelerated by subsidized credits, if fuels are taxed.

Fewer trips

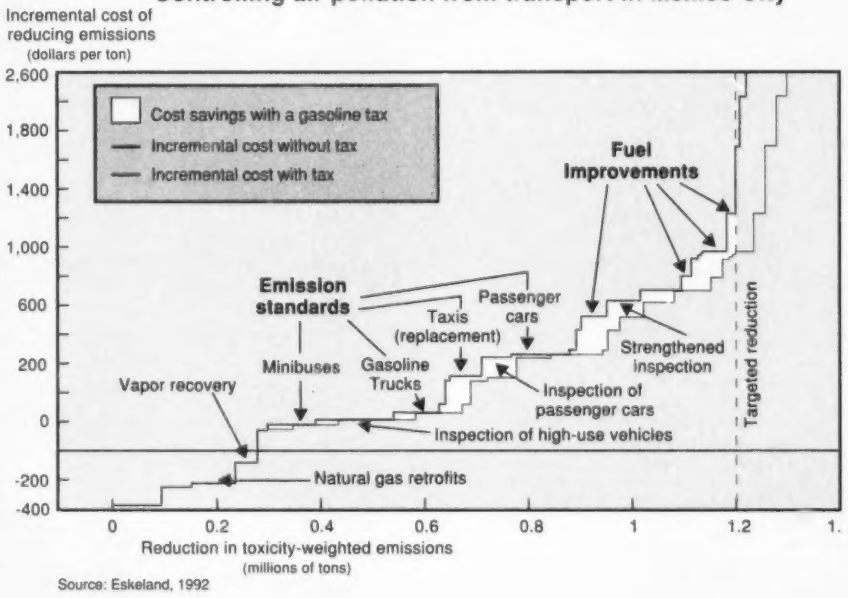
Beyond US$1,200–$1,500 a ton, however, emissions reductions get very expensive, and beyond that stage, demand management—making people economize on trips—must play an increasingly important role. Discouraging nonessential driving is critical, since vehicles still pollute, even after emissions controls are in place. But many industrial countries, such as the United States, rely almost exclusively on other measures—notably, imposing emissions standards on new vehicles and requiring vehicle inspections—in effect, ignoring that sacrificing a trip could be more attractive to consumers than very costly technical controls.

Policymakers can discourage the use of cars through a variety of means, including high-occupancy-vehicle lanes, car-free zones, and parking fees. But one of the simplest, most effective ways is through a gasoline tax, which raises the private cost of travel, especially for low-occupancy, fuel-intensive vehicles. A gasoline tax can have a major impact on vehicle use because it gives consumers the choice of making fewer trips, walking or bicycling, or using higher-occupancy transport modes—thereby helping them to screen out the least-essential trips.

For a pollution control program to be effective, our analysis shows that gasoline should be taxed according to the average emissions per liter, so that it exactly matches the cost per ton of the most expensive technical control option. That way, as increasingly costly emissions controls are required, consumers will also forgo increasingly valuable trips, because the tax rate rises. By pursuing technical controls and demand reductions equally aggressively, emissions reductions will always be obtained at the lowest possible costs.

The lower curve in the chart illustrates this principle, showing the costs when the technical measures are combined with a gasoline tax. The curve is drawn using a medium-term gasoline price elasticity of -0.4 (assuming for every 10 percent increase in price, consumption falls by 4 percent), which is in the middle of a range of estimates from Mexico. This parameter reflects a moderate drop in demand and a shift toward less fuel-intensive modes of transport. As one climbs the curve, the tax is adjusted upward in parallel with the cost of

Controlling air pollution from transport in Mexico City



Source: Eskeland, 1992

other options. The upper curve shows the costs of reducing total emissions when one does not use an optimal gasoline tax.

We found that by using only the measures designed to decrease emissions per kilometer, Mexico City could reduce current emissions from transport by 1.2 million weighted tons annually (about 70 percent) at an annual cost of US$580 million. But by including a gasoline tax of 6 cents per liter, or about 26 percent, it could achieve the same reduction with a saving of about US$65 million, or 11 percent (the shaded area in the chart). The welfare costs of applying the tax, represented by trips forgone, are thus more than outweighed by the costs saved on other measures.

There would be other benefits, too. Such a gasoline tax, motivated by pollution abatement alone, would generate an estimated US$350 million in public revenue in Mexico City alone, not to mention reducing congestion, road damage, and accidents. Thus, there are many reasons to tax gasoline at a higher rate, as is now being done.

How much flexibility is there on the demand side? Undoubtedly, public modes will have a tough time competing for passengers as incomes and aspirations grow if gasoline prices are low. Indeed, we believe the subsidy requirements to make public transportation attractive will be daunting, if not prohibitive, unless public transport initiatives are supported by measures such as gasoline taxes, parking charges, and perhaps area licensing, all of which make high-occupancy services more competitive.

Instruments will also differ in their distributive effects. For instance, emissions controls for used cars would hurt the poor more than would controls for new cars. Whether a gasoline tax is less progressive than alternative instruments has not yet been analyzed in developing countries; it will likely depend on whether car ownership and use has reached the poorer segments of the population.

Best policy mix

In sum, two levers can be pulled in the drive to reduce emissions: policies aimed at making vehicles and fuels cleaner, and policies aimed at reducing demand for polluting vehicle trips. When pollution taxes cannot be implemented, our study recommends a mix of both strategies.

To reduce emissions by modifying fuels and vehicles, we find that some measures will be best implemented by regulation, others by market-based instruments. But when it comes to reducing demand, taxation is immensely more effective than regulation, which often limits choices unnecessarily. This was exemplified by Mexico City's one-day-a-week driving ban, a measure that could have been effective on a temporary basis, but which proved ineffective when applied permanently. Gasoline taxes, in contrast—now being forcefully applied in Mexico—manage demand by screening out only the least essential trips.

How useful are these findings for other cities? The particular measures that will be the most cost-effective may vary from city to city, but the analytical approach should be widely applicable—as should the recommendation that market-based incentives (gasoline taxes) work better than regulation in general demand management. ■

Gunnar S. Eskeland
Norwegian, is an Economist in the Public Economics Division of the Bank's Country Economics Department. He was educated at the Norwegian School of Economics and Business Administration.

For a fuller discussion, see Eskeland's "A Presumptive Pigouvian Tax on Gasoline: Analysis of an Air Pollution Control Program for Mexico City," 1992, available from the author.

STUDIES OF ECONOMIES in Transformation to Focus on Policy Analysis, Research about 15 States of the Former USSR

FIVE TITLES now available in a new series

☐ **Food and Agricultural Policy Reforms in the Former USSR: An Agenda for Transition**
258 pages / ISBN 0-8213-2261-3 / $14.95

☐ **Trade and Payments Arrangements for States of the Former USSR**
Constantine Michalopoulos and David Tarr
258 pages / ISBN 0-8213-2260-5 / $6.95

☐ **Statistical Handbook: States of the Former USSR**
516 pages / ISBN 0-8213-2264-8 / $25.95

☐ **Income Transfers and the Social Safety Net in Russia**
Nicholas Barr
59 pages / ISBN 0-8213-2268-0 / $6.95

☐ **Foreign Investment in the Former Soviet Union**
148 pages / ISBN 0-8213-2269-9 / $9.95

Name _____
Address _____
City/State _____ Postal Code/Country _____
Customers who send payment or charge with a credit card should add $3.50 shipping and handling. Those institutions ordering with a purchase order will be charged actual shipping and handling charges.
❑ Enclosed is my check for US$ _____ payable to World Bank Publications.
❑ Charge my ❑ VISA ❑ MasterCard ❑ American Express ❑ Eurocard
(American Express accepted only for orders to Washington, D.C. Eurocard accepted only for orders to Paris.)
Credit Card Number _____ Expiration Date _____
Signature _____
❑ Please bill me (institutional customers only) _____
Include purchase order or list order number

Coupon orders accepted only from the U.S.A. and France. To order from other countries, request a list of World Bank Publications Distributors. Prices vary by country.

In the U.S. return the coupon to:
World Bank Publications
P.O. Box 7247-8619
Philadelphia, PA 19170-8619

In France return the coupon to:
World Bank Publications
66, avenue d'Iéna
75116 Paris, France

Crisis, Recovery, and Transformation in India

RANJIT TEJA

Judged against the rigidities of its previous economic regime, India has come a long distance in its economic thinking since July 1991 when, faced with a severe balance of payments crisis, the Government launched a series of IMF-supported macroeconomic and structural reforms. Indeed, significant policy changes have been introduced—fiscal and monetary restraint, partial convertibility of the rupee, abolition of excessive controls over industrial growth, liberalized foreign investment norms, and simplified import regulations. Yet, much more still needs to be done to set in motion a major restructuring of the economy.

India's economic prospects have been transformed over the past year and a half. In June 1991, the country was in the throes of severe political and balance of payments difficulties. Gross official reserves had fallen to the equivalent of just a few weeks' imports, inflation—usually quite low—was in double-digits and rising, and industrial growth was faltering for want of crucial imported inputs. Unlike previous episodes of macroeconomic instability, no obviously temporary factor could be blamed: the monsoon rains were normal, and oil prices had quickly receded after the Middle East crisis. Instead, basic questions were raised about the Government's ability to contain fiscal imbalances and manage the economy, and a deeper confidence crisis set in. With policymaking paralyzed by political turmoil and capital flight, the risk of external default loomed large.

The economic situation has changed dramatically since then. A credible economic stabilization program, centered on controlling the fiscal deficit and setting in motion structural reforms, has made possible a reconstitution of foreign exchange reserves far in excess of the most optimistic expectations. Inflation has declined, and the economy is showing signs of revival. A decisive break with the interventionist policies of the past has been instrumental in turning around public confidence and reversing the economic decline.

Origins of crisis

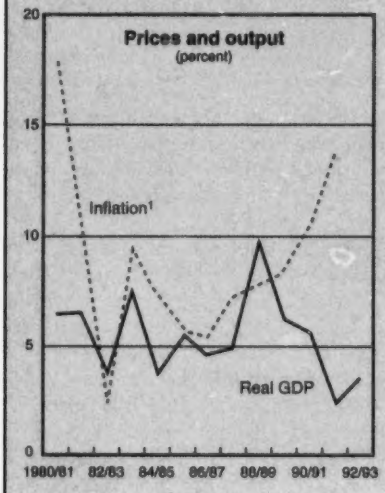
As in many other countries, India's balance of payments crisis had its roots in the high and growing fiscal deficits of the 1980s. For nearly forty years, India's development strategy had rested on a vast regulatory apparatus designed to support a large public sector (including key inputs such as steel, power, transport, and banking), while leaving the production of consumer goods (imports of which were banned) to the private sector. High protection, tight controls over industry and investment, and a legal framework preventing free movement of capital and labor combined to make for generally lackluster growth—a performance starkly at odds with India's enormous natural, human, and entrepreneurial resources. Nevertheless, despite its reputation for heavy-handed interventionism, it had established a long track record of macroeconomic stability based on generally cautious financial policies. Thus, as the fiscal deficit widened in the latter half of the 1980s (see chart), India was able to draw on its record of stability to finance rising current account deficits, principally through private capital inflows, including a sizable amount of repatriatable deposits from Non-Resident Indians (NRIs).

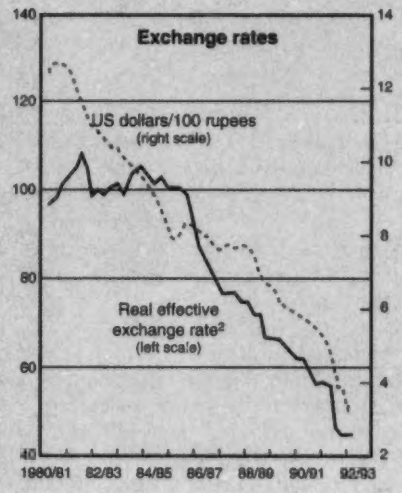
The period of strong domestic demand was accompanied by a modest and gradual liberalization of investment and trade, as well as substantial real depreciation of the currency—so that exports and output growth picked up markedly in the late 1980s. However, serious structural constraints remained, and inflationary pressures built up. At the same time, the drawdown in foreign exchange reserves and a growing debt burden raised questions about the sustainability of the current account.

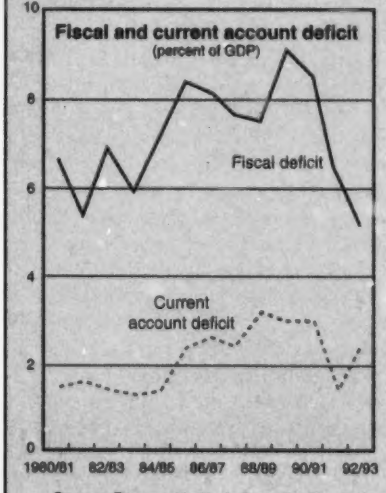
Against this background of rapid domestic demand growth and structural rigidities, two successive shocks in the second half of 1990 exposed the fragility of the balance of payments. First, the Middle East conflict did double damage by raising India's oil import bill and lowering workers' remittances. At the same time, despite steady depreciation of the currency, export receipts contracted, reflecting a lengthening in lags in the repatriation of export proceeds; import payments, too, were brought forward in anticipation of trade controls and further currency depreciation.

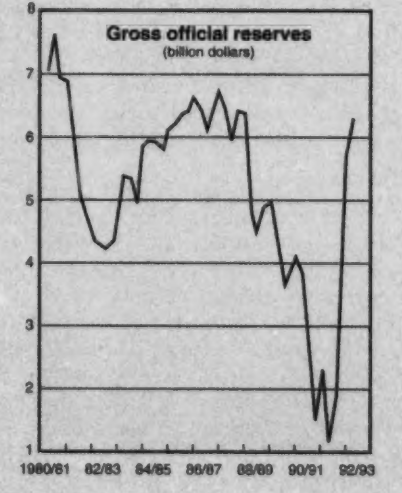
Second, domestic political turmoil resulted in the fall of two successive governments—so that, pending fresh elections, the caretaker government could do little more than resort to stop-gap measures, including an interim budget largely devoid of policy action and a tightening of import controls. Such inaction drained the last dregs of hope that external creditors and the public may still have had about a firm response to the deteriorating economic situation. NRIs began withdrawing their deposits and India's access to medium- and long-term bank borrowing all but dried up. Notwithstanding substantial recourse to IMF borrowing and tighter import controls, gross official reserves continued to decline

Signs of economic turnaround in India









Sources: Data provided by Indian authorities; and program projections.
[1] Change in wholesale price index.
[2] Based on the IMF, Information Notice System (1980=100). Calculation excludes Brazil. For March and June 1992, the exchange rate applied to exports is shown.

steadily. The crisis deepened after the assassination of former Prime Minister Rajiv Gandhi, and by the time the new Government took office in June 1991, readily usable foreign exchange reserves were within weeks of being entirely depleted.

The emergency stabilization effort

Within days of assuming office, the new Government announced a two-stage adjustment strategy aimed at restoring public confidence and staunching capital flight.

The first stage consisted of an emergency package of stabilization measures, including a 19 percent devaluation of the currency and the establishment of a *de facto* dual exchange rate regime (by giving exporters a share of their earnings in the form of a tradable import license). Monetary policy was tightened further and interest rates were raised substantially. The authorities also undertook a large amount of gold-backed external borrowing as a sign of their commitment to meeting all external obligations. Indeed, the pains the authorities went through to avoid default, including harsh across-the-board import compression measures, surprised many who had come to regard debt rescheduling as inevitable.

The second stage coincided with the fiscal year (FY) 1991/92 Budget (April-March) in late July, the central element of which was a credible—and quickly implemented—set of measures to lower the fiscal deficit from about 9 percent of GDP in the previous year to 6 1/2 percent of GDP; with only eight months left in the fiscal year, the politically courageous set of measures represented a sharp contraction in fiscal stimulus.

Just as important, Finance Minister Manmohan Singh's budget proved to be a watershed in policy orientation, insofar as there was a decisive shift away from economic intervention and a highly gradualist approach to reform. By far the most far-reaching step was the virtual abolition of the complex system of industrial licensing, which had for decades governed the entry, expansion, and diversification of industries. A number of measures were also announced to strengthen competition between the private sector and public enterprises, including a narrowing of the areas reserved exclusively for the public sector. Foreign direct investment was significantly liberalized, from case-by-case consideration to automatic approval of 51 percent foreign equity ownership in a wide range of industries. With a credible and rounded adjustment well under way, and with bilateral donors and the World Bank committed to making available substantial amounts of quick-disbursing assistance—including a $500 million structural adjustment Bank loan—an SDR 1.7 billion stand-by arrangement was approved by the IMF's Executive Board on October 31, 1992.

Stabilization under the program

With the rebuilding of critically low foreign exchange reserves an overriding short-term objective, the adjustment strategy centered on a near halving of the central government fiscal deficit, which lay at the root of external and internal macroeconomic imbalances. This was to be supported by tight monetary policy

and a deepening of the structural reforms that had been announced in July.

The first five months of the program witnessed a remarkable reversal of capital flight and rebuilding of net international reserves, which rose by over $3 billion to bring the foreign exchange cover to three months of imports. To a large extent, the sizable balance of payments surplus in the second half of FY1991/92 reflected the effect of import compression measures taken at the height of the crisis, which lowered the volume of overall imports by over 17 percent; imports of capital goods and other inputs were hit even harder. Exports also suffered, partly because of the shortage of imported inputs, but also as a result of the collapse of trade with the states of the former U.S.S.R. Total trade declined sharply, and the overall current account deficit was nearly halved in FY1991/92.

Balanced against this painful contraction in trade, however, was a major reflow of capital. About $2.5 billion was mobilized from the sale of special bonds denominated in foreign currencies and from an amnesty scheme to encourage the repatriation of assets held abroad. Attractive—for India, costly—interest rates were clearly an important factor here. The larger reason for the reversal of capital flight, however, was the restoration of confidence following up-front structural reforms and fiscal actions in the budget (including politically difficult cuts in fertilizer subsidies and transfers to states).

One side effect of the massive buildup in foreign exchange was a large expansion in broad money. Partly as a result, the rate of inflation did not drop as quickly as had been hoped, although it did fall from its peak of 17 percent in August to about 13 percent by end-March 1992. At the same time, output growth slowed markedly as the squeeze on imported inputs led to a downturn in industrial production. Thus, by the start of FY1992/93, the focus of short-run adjustment shifted from averting external default to lowering inflation further and reviving the economy.

In this respect, the FY1992/93 budget aims at a further reduction in the fiscal deficit to 5 percent of GDP, principally through expenditure reduction. By September 1992, inflation had fallen to about 7.5 percent, less than half the rate the year before, while industrial activity and imports had picked up. The current budget places most of the emphasis on continued expenditure reduction, especially cuts in subsidies, and higher petroleum prices; revenues are projected to rise moderately, despite significant cuts in import tariffs, reflecting the anticipated rebound in imports following the elimination of all direct controls imposed during the previous two years. Although fiscal variables were evolving roughly as planned, broad money growth remained high—once again, as a result of an unsterilized increase in foreign exchange reserves.

Structural reform

In addition to the liberalization of trade noted above, a number of other reforms were set in motion at the time of the budget—most prominently, the move to partial convertibility of the rupee. Thus, myriad quantitative restrictions on nonconsumer goods imports were eliminated, and importers were allowed to purchase foreign exchange in a newly established dual foreign exchange market; exporters were allowed to convert 60 percent of their earnings at this free market exchange rate, the remaining 40 percent being surrendered to the central bank at the official exchange rate (mainly to finance fertilizer and petroleum imports). Contrary to initial fears, the free foreign exchange market has been remarkably orderly, with the premium stable at 15–20 percent over the official rate.

Ranjit Teja
from India, is a Senior Economist in the IMF's Central Asia Department. He holds a PhD from Columbia University.

A number of actions were taken in the area of financial sector reform. Foremost among these was the sharp cutback in the cash reserve ratio and the statutory liquidity requirement (which obliges banks to hold government securities at below-market rates of interest); at the margin, the share of bank deposits impounded by such requirements fell from over 63 percent to 45 percent of new bank deposits. Further, the interest subsidy to "preferred" sectors was reduced, while deposit interest rates were liberalized. Steps were also taken to strengthen bank supervision and to phase in risk-weighted capital adequacy standards based on the Basle Committee on Banking Supervision (established by ten leading industrial countries under the auspices of the Bank for International Settlements); the financing of banks' recapitalization needs remains one of the key challenges for the medium term. In May 1992, the financial sector was shaken by news of fraud on the expanding Bombay Stock Exchange involving illegal channeling of bank resources to the stock market. While the authorities see this as an argument for speeding up reforms, the impact of the scandal on the pace of financial sector reform remains to be seen.

The agenda ahead

Clearly, India has come a long way since the program of fiscal consolidation and structural reform was initiated in July 1991. But the Government recognizes that much remains to be done. A medium-term adjustment program is now being drawn up, aimed at deepening the reforms and reversing the legacy of protectionism and direct controls.

Three areas will be particularly important.

- Further trade liberalization and moves toward current account convertibility are planned. This would entail substantial cuts in average tariff rates, the elimination of quantitative trade restrictions (most consumer goods imports are still banned), and the unification of the dual exchange rate system.
- The program will aim at improving the quality of fiscal adjustment. Specifically, while the central government will focus on shifting the burden of adjustment from capital spending and maintenance to current spending, the process of fiscal adjustment also will be extended to the level of the states and public enterprises; tax reform—most importantly, a broadening of the tax base—also will be crucial, especially if planned cuts in tariff rates are not to be compromised by revenue considerations.
- To ensure that the reallocation of resources envisaged by the reform program is not hampered, an exit policy is being developed to allow the closure and restructuring of unviable firms both in the public and private sectors (government laws and regulations currently prevent timely exit of loss-making firms). A nascent social safety net—among other things, to provide compensation and retraining for displaced public sector workers—is being supported by the World Bank and should become operational shortly.

Taken as a whole, the program would drastically alter relative prices and set in motion a major economic restructuring—not just of production, but also of income, including the enormous economic rents associated with India's regulated system. In such a large federal democracy, these economic strains are bound to be reflected at a broader social level. As such, the challenges are as much political as they are economic. ■

The CFA Franc: Zone of Fragile Stability in Africa

JAMES M. BOUGHTON

The CFA franc zone is a currency union linked to the French franc. If viewed as a monetary union alone, it does not appear to be close to an optimal currency area. When viewed as part of a wider franc zone, however, its viability and its benefits become clearer.

Most of the more than 50 countries in Africa are poor, and all have faced enormous challenges during the past decade. Their economic performance and policies have nevertheless been quite diverse. Output per capita in 1989 ranged from less than $100 in Mozambique to more than $5,300 in Libya. The annual inflation rate for the 1980s ranged from negative 1 percent in Chad to 108 percent in Uganda. The percentage of output derived from manufacturing in 1989 ranged from 4 percent in Tanzania to 25 percent in Zimbabwe. Total external debt at the end of 1989 ranged from the equivalent of seven months' export receipts in Mauritius to 270 months in Somalia. And the average annual rate of change in the exchange rate against the SDR for the 1980s ranged from nearly 135 percent depreciation in Uganda to 1.7 percent appreciation in Rwanda.

This last statistic—the behavior of the exchange rate—may be the most esoteric, but it illustrates a key difference in the way countries have responded to the difficulties of the past decade. The exchange rate plays two very important but conflicting roles in economic policy. It can serve as an anchor for financial stability: If a country can run financial policies so as to be consistent with exchange rates that are stable against key currencies, then that country will gain credibility and will promote confidence in its economy. However, the exchange rate is also an instrument of external adjustment. If a country that has allowed wages and prices to get too high can reduce their real value through exchange rate depreciation, then that country will gain international competitiveness. Because these linkages are complex and uncertain, and because financial stability and competitiveness are both prerequisites for sustainable real economic growth, there is no single "right" approach to exchange rate policy.

Roughly two thirds of all developing countries in the world have chosen to favor stability over flexibility by pegging their exchange rates to a single currency or to a basket of currencies, or (in a few cases) by intervening in exchange markets so as to limit flexibility against a currency. Africa is a microcosm of that choice: 34 out of the 50 countries for which data are available have some sort of pegging arrangement. Two peg to the South African rand, five to the US dollar, 13 to the SDR or other basket, and 14 to the French franc. It is this last phenomenon that is of interest here: Does it make sense today for a large and diverse group of African countries to peg firmly to a single European currency, or is that arrangement a historical accident that could unduly constrain economic policy?

What is the CFA franc zone?

The CFA franc zone is an outgrowth of the economic and financial arrangements under which France administered its colonies. Prior to World War II, French colonies typically maintained their own currencies at parities that were firmly linked to the French franc. After the war, the system was simplified by consolidating the currencies of colonies in the Pacific region into a single currency known as the CFP franc ("le franc des Colonies Françaises du Pacifique") and all others (most of which were in Africa) into CFA francs ("le franc des Colonies Françaises d'Afrique"). In each case, the currencies were fully convertible into French francs at the fixed parity. Each participating central bank established an "operations account" at the French Treasury, into which it deposited most of its foreign

exchange. Convertibility was guaranteed through rules permitting overdrafts on these accounts, if necessary. This system permitted the free mobility of capital throughout the zone, and it encouraged the growth of international trade by instituting common trade and financial policies. These principles continue to govern the CFA franc zone.

The most remarkable feature of the CFA franc zone is that the exchange rate against the French franc has not changed for more than 40 years. There was some initial instability immediately after the war, and the rate was then set at 0.5 CFA franc per French franc. In 1968, France effected a currency reform and issued new francs at the rate of 1 per 100 old francs; the value of the CFA franc was left unchanged, so the exchange rate became 50 CFA francs per new French franc, where it remains as of 1992.

There have been some important institutional changes over the years, however, reflecting the political and economic turbulence that this region of the world has experienced. First, the number of member countries has fluctuated. In the first 30 years, several countries—mostly those that are not contiguous to the others—such as Madagascar and Djibouti—left the zone to establish independent currencies or to adopt the French franc. In the 1980s, however, the trend in membership was reversed, as Mali rejoined in 1984 after an absence of 22 years, and Equatorial Guinea in 1985 became the first member country without colonial (or even close economic) ties to France. Since then, there have been 13 member countries in the zone, forming a contiguous group across the equatorial region of west and central Africa. (The 14th African country pegged to the French franc is the Comoros, which has an independent currency fixed at the same parity as the CFA franc; elsewhere, French Polynesia, New Caledonia, and Wallis and Futuna Islands use the CFP franc, with a different fixed parity.)

A second principal change is that the system has become less dependent on France. The member countries gradually achieved independence in the late 1950s and early 1960s, and major "Africanization" reforms were implemented in 1974. These reforms strengthened the control of the member countries over their central banks, while retaining a participatory role for central bank directors appointed by France. Reflecting these changes, the concept of the CFA franc as a colonial currency was abandoned.

Today there are two separate currencies, both of which are known as the CFA franc, but whose full names have changed. The seven member countries in west Africa—Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, and Togo—use currencies known as the "franc de la Communauté financière d'Afrique." They have formed a regional association, the West African Monetary Union (WAMU), and have vested authority to conduct monetary policy in a common central bank, the Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO). The six members in central Africa —Cameroon, the Central African Republic, Chad, the Congo, Equatorial Guinea, and Gabon—use the "franc de la Coopération financière en Afrique centrale," and have their own central bank, the Banque des Etats de l'Afrique Centrale (BEAC).

Along with these political and institutional changes has come an increasing degree of economic diversification. From the mid-1960s to the mid-1980s, the portion of the zone's international trade that was with France dropped from nearly 50 percent to around 30 percent, with other European countries taking up much of the difference. Over the same two decades, the share of food products and agricultural materials in the zone's exports dropped from 75 percent to less than 50 percent, with petroleum and other mineral products taking up the difference. Nine different products constitute the dominant export commodity for the 13 countries. For seven countries, minerals are the largest export, and for five others, agricultural materials (cotton and timber). For only two countries were food products the dominant export in the mid-1980s: cocoa from Côte d'Ivoire and fish from Senegal. With this diversity have come disparities in per capita output, ranging from less than $200 a year in cotton-producing Chad to more than $3,000 in petroleum-rich Gabon.

There are three basic mechanisms for controlling monetary growth in the CFA franc zone. First, interest is charged on overdrafts in the operations accounts (and interest is paid on credit balances). Second, when the operations account balances fall below specified target levels, the central bank concerned must implement policies restricting credit expansion. These restrictions focus on raising the cost of rediscounting paper with the central bank and restricting access to rediscount facilities; this emphasis on rediscounting reflects both the limited development of domestic financial markets and the absence of bank reserve requirements. In order to implement the credit restriction rules, each central bank's operations account balance is notionally allocated among the member countries, with a residual allocated to the bank itself. Third, credit from the central banks to the public sector of each country is limited to a maximum of 20 percent of the previous year's fiscal revenue. These rules do not dictate a strict ceiling on total domestic credit growth, but they do impose a strong measure of financial discipline.

How well does the system work?

The effectiveness of the zone's arrangements has been subjected to much scrutiny in the past few years, owing to the severe and prolonged deterioration in economic performance since the mid-1980s. The currency has on occasion come under speculative attack in the form of capital flight, in response to rumors of impending devaluation. The countries concerned have responded, most recently in meetings at both ministerial and head-of-state level during the summer of 1992, by seeking to strengthen rather than abandon the arrangements. Notable proposals to emerge from those meetings include plans to establish intergovernmental councils for coordination of monetary, fiscal, and related macroeconomic policies and to promote real (in addition to monetary) integration of the region. Such efforts will succeed in the long run only if the zone itself is a sensible response to economic condition.

One way of analyzing the effectiveness of the CFA franc zone is to ask how well it fits the usual criteria for a successful currency union. These criteria include factors such as the degree of flexibility of wages and prices; the degree of labor mobility; the similarity between countries in the effects from external disturbances; and the degree of intraregional trade. There are positive aspects on each front, but on none of these economic grounds would the zone appear to be a natural candidate for a common currency area.

Downward flexibility of prices and wages is inherently limited in all parts of the world economy. If prices and wages were highly flexible, the optimum arrangement would be to promote financial stability and the growth of international trade by fixing exchange rates, leaving any required adjustment to individual markets. Studies of CFA franc countries have shown some evidence of downward flexibility of real wages during inflationary periods, but there have been notable examples of failed attempts to cut nominal wages—especially in the public sector—during deflationary periods. In addition, when coffee prices plummeted by half in the mid-1980s, the prices paid to coffee growers held firm throughout the zone.

Labor mobility between countries is significant in certain parts of the region. One recent study estimated that in 1975, 25 percent of employed people in Côte d'Ivoire were foreign nationals, and that labor migration was correlated with economic conditions. This type of

migration enables unemployed workers in one country to move to areas where jobs are relatively plentiful; in the absence of such migration, exchange rate changes might provide an alternative means of restoring equilibrium between labor markets. The potential for migration to serve as a flexible response to shifts in economic conditions is limited, however, by the vast distances between cities, the limited transportation network, and restrictive policies in some member countries.

The absence of country-specific shocks would be another consideration that could limit the need for exchange-rate adjustment. Unfortunately, this is one area where the CFA franc zone was hit hard in the 1980s. The major adverse shock in this period was a sharp deterioration in the terms of trade, in the form of a large decline in world market prices of many of the commodities exported by these countries. But the declines were far from uniform. From 1980 to 1990, prices of palm oil, cocoa beans, and uranium fell by 50 percent or more; prices of petroleum, fish meal, phosphate rock, cotton, and beef dropped by 20 percent or less; and timber prices rose slightly. As noted earlier, the structure of exports differs greatly between countries across the zone; these diverse price movements thus have translated into sizable differences in terms-of-trade shifts.

Finally, intraregional trade is quite limited. In contrast, the high degree of intraregional trade in Europe is one of the key arguments cited by advocates of European monetary union: Use of a common currency reduces the cost of making transactions within the union, and the higher the portion of covered trade, the greater the benefit. For example, 57 percent of France's international trade was with other members of the European Community in 1985–87. In the CFA franc zone, just 7.5 percent of trade was within the region during the same period. This very low portion results from the same factors that limit labor mobility, plus the limited markets for many products in low-income countries.

The zone as a monetary standard

Another perspective on the effectiveness of the zone is whether it makes sense as a monetary standard. An important feature of the CFA franc zone is that it combines the use of a common currency by a group of countries with a firm peg against an outside anchor currency, with the active cooperation of the anchor country. This feature conveys potential benefits, via the establishment of a strong independent central bank, the imposition of fiscal discipline, and the maintenance of currency convertibility—as well as potential costs, via the loss of the exchange rate as an adjustment instrument. On balance, the net benefits on this perspective are rather more favorable.

Perhaps the key to the remarkable persistence of the zone is the benefit from the financial discipline that it imposes and the credibility that it conveys to financial policies. For the 1980s as a whole, all of the CFA franc countries recorded inflation rates that were close to or below France's inflation rate, in sharp contrast to the highly inflationary experiences of many of the other countries in the region. The unweighted average for inflation in consumer prices in the zone was 4.2 percent (1980–89), compared with 6.5 percent in France. More important, this price stability was achieved at no apparent cost in long-term growth: The mean annual growth in real output was around 2.5 percent, compared with 2 percent in France and somewhat less than 2 percent in neighboring African countries. These simple cross-country comparisons do not imply that growth would have been lower under a more flexible exchange rate regime, but they do indicate that the member countries have done at least as well as their neighbors (all of whom have had somewhat more flexible regimes).

James M. Boughton
a US citizen, is the IMF Historian in the Secretary's Department. He was previously an Advisor in the Research Department and holds a PhD from Duke University.

A more direct way of judging the effectiveness of the zone's hard-currency arrangements is to examine the strength and stability of international competitiveness. Even though inflation has been relatively low, member countries could have lost competitiveness through changes in exchange rates between other countries or through terms-of-trade shocks. In this regard, attention has focused on a few notable cases of appreciation of real effective exchange rates: 36 percent appreciation in Côte d'Ivoire from 1985 to 1988, and the same magnitude in Cameroon from 1982 to 1987. These movements, however, have tended to be reversed over time, and there has been no systematic tendency toward appreciation. Real effective exchange rate indexes are published in the IMF's *International Financial Statistics* for five of the CFA franc countries. From 1980 to 1990, only Cameroon showed a net appreciation (just over 10 percent); Togo depreciated by more than 20 percent, Gabon by 10 percent, and Côte d'Ivoire and the Central African Republic by 3 to 4 percent.

These data do not imply an absence of competitive problems. Owing to the deterioration in the terms of trade, the real exchange rate indexes should have declined just to maintain the initial position in external trade, and the magnitude of the external deficit that has resulted is indicative of serious structural imbalances. Like many other developing countries in the 1980s, most members of the zone have experienced rising current account deficits, declining output, depleted net foreign assets, and recourse to rescheduling agreements on external indebtedness. But to the extent that these problems resulted from external traumas rather than from financial mismanagement, the ability of exchange rate flexibility or other shifts in macroeconomic policies to deal with them is inherently limited.

In the final analysis . . .

Making the case for the CFA franc zone depends on viewing it in broad terms: as a combination of a currency union and a monetary standard. The countries in the zone are economically diverse, and there is relatively little trade among them. They do, however, have very strong trading links with Western Europe. Consequently, the zone has become part of a wide area of currency stability comprising the CFA franc countries, France, and other western European countries. Fully 70 percent of the trade of the CFA franc countries is conducted within this broad zone. By persisting with the currency union in the face of the shocks of the past decade, these countries have traded away the exchange rate as an instrument for external adjustment and in some cases have been forced to resort to protectionism and other price-distorting measures. Overall, however, they have gained a measure of financial stability that has proved elusive elsewhere in the region. In addition, they have maintained and even strengthened their trade and financial linkages with Europe. Whether this trade-off will reap dividends in the long run is one of the key questions facing Africa in the 1990s. ■

For a more detailed study, see "The CFA Franc Zone: Currency Union and Monetary Standard," by James M. Boughton, IMF Working Paper (WP/91/133), available from the author.

The New Regionalism

JAIME DE MELO AND ARVIND PANAGARIYA

With a new wave of regional trading arrangements on the rise, the World Bank and the Centre for Economic and Policy Research decided to hold a conference in April 1992 on the "new regionalism" and its likely effects on the multilateral trading system. Participants disagreed on whether regionalism will help or hinder multilateralism. But they agreed that this time, it is here to stay, so steps must be taken to ensure that the world does not divide up into inward-looking trading blocs.

Four decades ago, boosted by the creation of the European Community (EC), a first wave of regionalism spread across the world. Then after laying dormant during most of the 1970s, it took off again in the mid-1980s. All the major players in the world are involved. Canada, Mexico, and the United States have initialed the North American Free Trade Agreement (NAFTA). The United States has also launched the Enterprise for the Americas Initiative (EAI), whose ultimate goal is a hemispheric free trade area. In Europe, the EC has launched the "Europe 1992" initiative to create a single, internal market, while the queue of countries desiring to join the EC continues to lengthen. There is a growing concern that, *de facto*, a trading bloc is forming in East Asia under the leadership of Japan. And since 1985, six substantive regional agreements and innumerable proclamations of intent to integrate have been signed.

This second wave differs sharply from the first one.

- Whereas past arrangements were generally viewed as either benign (pacts among developing countries) or complementary (the EC) to multilateralism, there is reason to worry that current ones may work at cross-purposes with multilateralism.
- The United States is no longer exclusively committed to multilateralism and is actively pursuing regionalism.
- Today, regionalism is being pursued on a much larger scale.
- There are now far fewer trade restrictions in developing countries.
- In a dramatic shift, developing countries are seeking partnerships with developed countries rather than solely with each other.

These developments give rise to four critical questions that were debated at the recent trade conference held at the World Bank. Is the world increasingly moving toward three trading blocs centered around the EC, Japan, and the United States, and is this good for the multilateral trading system? Given the relatively liberal trade regimes in many developing countries, what advantages are there to regional arrangements for these countries? What does the experience with regional integration in the developed and developing world tell us? And what steps can be taken to ensure that trading blocs do not turn inward?

Rise of trading blocs: good or bad?

The debate on the merits of regionalism is not new. More than forty years ago, Jacob Viner (1950) in his famous treatise, *The Customs Union Issue*, showed that extending a preferential concession to a partner may well involve replacing imports purchased from the cheapest source with imports from the partner country, in which case trade di-

Trade creation or trade diversion?

To clarify the relative merits of regional and multilateral approaches to trade liberalization, consider an example. Suppose that, following the multilateral route, Mexico and the United States strike a bargain under the auspices of the GATT's Uruguay Round. The United States agrees to lower its tariff on imports of Mexican shoes, and "in return" Mexico agrees to lower its tariff on US baseball gloves. Under the GATT provisions, these tariff concessions are granted automatically to other member countries. This nondiscriminatory nature of the concessions implies that trade expansion between the United States and Mexico does not take place at the expense of other, more efficient countries. The two can export more to each other only to the extent that they are more efficient than third countries. Thus, trade expansion is based on true comparative advantage, and welfare improves not merely in these two countries but throughout the world.

Next, suppose that the United States and Mexico decide to go the bilateral route and lower tariffs just for each other. Suppose further that the lowest cost supplier of shoes is the Republic of Korea, followed by Mexico and the United States. The tariff reduction on Mexican shoes will expand US shoe imports from that country. To the extent that this expansion replaces expensive domestic US production, we have "trade creation" and welfare improves in Mexico, as well as in the United States. But since the tariff reduction applies only to Mexico, Mexican shoes can also replace US shoe imports that originally came from Korea. Since Korea is a lower-cost producer than Mexico, this part of the increased Mexican exports will be "trade diversion" and contribute negatively to US and Korean welfare. Thus, the effects of preferential trade liberalization are ambiguous. Mexico's welfare improves, Korea's welfare declines, and the effect on US welfare depends on which is larger, trade creation or trade diversion.

Economists have generally argued that small countries can maximize the benefits from trade by liberalizing their economies unilaterally. This is because these countries have a very small share in world markets (developing countries account for only 3 percent of world manufacturing exports), so that even a large increase in their exports will not lead to a significant decline in the terms of trade. This intuitive idea, which has been at the heart of many recent structural adjustment programs, loses force in a world of inward-looking trading blocs. For in that world, unilateral liberalization does not offer a large scope for trade expansion, whereas accession to a bloc "opens up" a large market.

version, rather than trade creation, occurs—resulting in a loss in welfare (see box).

But one issue that was never debated during the 1950s and 1960s was the possibility of the world dividing up into a few trading blocs. This simply was not a realistic prospect, given the long history of the United States as a staunch supporter of the General Agreement on Tariffs and Trade (GATT) and of the multilateral approach. In recent years, however, the United States has also supported a regional approach—in part, out of frustration with the delays in completing the GATT-sponsored trade talks, known as the Uruguay Round. And although Japan has resisted leading the way toward a defensive bloc in East Asia because of its large stake in the US market, it could well change its stance.

What would a three-bloc world mean for the future of the multilateral trading system? Although conference participants agreed that regionalism was here to stay, they were generally divided into two camps on whether it will serve as a stepping stone to global free trade, or seal the fate of multilateralism.

Those who favored the regional approach to trade policy did so for three main reasons. First, they argued that negotiations for freer trade would be more likely to succeed when conducted among three large blocs than among more than 100 parties. Second, they noted that regional trade talks have gone well beyond the tariff-cutting exercises of multilateral negotiations, delving into areas such as harmonizing tax policies and product standards. And third, they pointed out that the EC's success extended well beyond the narrow confines of efficiency gains through the removal of distortions: internal conflicts that have plagued Europe throughout history are no longer conceivable now that the major powers are economically integrated.

Paul Krugman of the Massachusetts Institute of Technology represented some of these positions by arguing that trading blocs are in principle bad, but in practice good. They are bad in principle because if the world divides into a *small* number of *large* blocs and they fail to cooperate, they will exercise their market power, leading to a world of "fortresses" with free trade within each bloc, but high barriers to trade between blocs. In practice, however, trading blocs are formed among countries that are "natural" partners, so the trade diversion aspect of bloc formation is exaggerated. He argued that as the number of players becomes small, a cooperative solution is more likely.

But opponents to regionalism warned that historically, regional trading blocs have been inward-looking. Examples include the disastrous beggar-my-neighbor policies of the 1930s, when discriminatory blocs were used to slap trade restrictions on nonmembers, and the import-substitution industrialization strategy of Latin America in the 1960s, which was built around regional trading arrangements. More recently, European integration, for many, poses the threat of a "fortress" Europe in formation.

They also argued that the threat that regionalism will move the world away from free trade was stronger owing to the growing tendency to use nontariff barriers to trade (voluntary export restraints, antidumping, and countervailing duties) as a way of adjusting to a sudden surge of imports from trading partners in a regional arrangement. These devices, all part of the "New Protectionism," can of course be easily used against nonpartners.

Jagdish Bhagwati of Columbia University represented these views by essentially taking the position that trading blocs can be good in principle, but are likely to be bad in practice. Now that the United States is a "diminished giant" and unable to be an effective leader in multilateral trade talks (as Britain was in the latter part of the nineteenth century and the United States was in the early post second World War period), a division of the world into three blocs may be inevitable. These blocs could be good in principle because if they cooperated, they could easily negotiate reductions in the remaining trade barriers and move rapidly to a system of free world trade.

In practice, however, he saw regionalism as having many pitfalls. First, it is slower and less efficient than multilateralism (during the first wave, developing countries suffered from the piecemeal rather than the across-the-board approach; even for the EC, the transition to a single market is taking at least four decades). Second, it threatens to erode support for multilateralism (business groups will find it easier to get protectionist trade-diversionary deals in a preferential pact than in the nondiscriminatory world of the GATT). And third, it will not produce better results than a multilateral approach. Even if weak states agree to the specific demands of strong states, they may not do so in ways that are optimal from the viewpoint of the economic efficiency of the world trading system. For example, although Mexico has accepted US demands on intellectual property protection, there is little evidence that inadequate protection of intellectual property rights in the developing world impedes the creation of new technological knowledge.

Political and institutional aspects

Another issue in the debate over regionalism is exactly what participating countries stand to gain from it, especially given that—thanks to unilateral moves in most

Latin American countries and an increasing number of African countries—today's trading environment is relatively liberal. Low barriers to trade imply that the expected trade creation effects of preferential liberalization are limited, so the benefits of regional integration must lie elsewhere.

The authors of this article, along with Dani Rodrik of Columbia University, argued that one major attraction might be the possibility of "importing" national institutions and economic policies of member countries. Indeed, regional arrangements might require harmonization of industrial and tax policies, coordination of environmental policies, and, above all, a commitment to stable foreign exchange and monetary policies. These might, in turn, reduce the room for discretionary actions by governments and possibly restrict the power of growth-retarding "interest groups."

How have regional trade arrangements fared?
Regional trading schemes: intraregional exports and world exports

	Founded	1960	1970	1975	1980	1985	1990
ANZCERTA	1983	5.7[1] (2.4)[2]	9.1 (2.1)	8.2 (1.7)	8.4 (1.4)	7.0 (1.0)	7.8 (1.5)
EC	1957	34.5 (24.9)	51.0 (30.0)	50.0 (35.9)	54.0 (34.9)	54.5 (35.0)	60.4 (41.4)
EFTA	1960	21.1 (14.9)	28.0 (14.9)	35.2 (8.3)	32.6 (5.1)	31.2 (6.3)	28.2 (6.9)
Canada-US-FTA	1989	28.6 (21.9)	32.8 (20.5)	30.6 (19.8)	26.5 (15.1)	26.0 (14.7)	34.0 (15.8)
ASEAN[3]	1967	4.4 (2.6)	20.7 (2.1)	15.9 (2.6)	16.9 (3.7)	18.4 (3.9)	18.6 (4.3)
ANDEAN PACT	1969	0.7 (2.9)	2.0 (1.6)	3.7 (1.6)	3.6 (1.6)	3.4 (1.2)	4.6 (0.9)
CACM	1961	7.0 (0.4)	25.7 (0.4)	23.3 (0.3)	24.1 (0.2)	14.7 (0.2)	14.6 (0.1)
LAFTA/LAIA[4]	1960/80	7.9 (8.0)	8.9 (4.4)	13.6 (3.5)	13.7 (4.2)	8.2 (4.7)	10.6 (3.4)
ECOWAS	1975	... ...	3.0 (1.0)	4.2 (1.4)	3.6 (1.7)	5.5 (1.1)	6.0 (0.6)
PTA	1982	... ...	9.4 (1.1)	9.4 (0.5)	8.9 (0.4)	7.0 (0.3)	8.5 (0.2)

Source: *Direction of Trade Statistics*, IMF.
Note: Definitions of regional integration schemes are: ANZCERTA—Australia-New Zealand Closer Economic Relations Trade Agreement; EC—European Community; EFTA—European Free Trade Area; ASEAN—Association of South East Asian Nations; CACM—Central American Common Market; LAFTA/LAIA—Latin American Free Trade Area/Latin American Integration Association; ECLAWAS—Economics Community of West African States; PTA—Preferential Trade Area for Eastern and Southern Africa.
[1]Intraregional trade measured by share of intraregional exports in total exports.
[2]Share of regional integration scheme in total world exports.
[3]It is more a cultural and less an economic association; preferential trading among countries is minimal.
[4]LAFTA was founded in 1960, but renewed as LAIA in 1980.

Mr. Rodrik and the authors identified three channels through which regional integration could alter economic outcomes.

- A regional arrangement entails a larger political community and hence a smaller role for politically important groups in each country. This should render decisionmaking less responsive to factional interests, unless politically powerful lobbies can form alliances across countries.
- When a regional institution is set up from scratch, better choices may be made than at the nation-state level, where policymakers have to contend with past institutions that accommodate factional interests. With the completion of the EC internal market, for example, quotas on imports of textiles and apparel, now negotiated at the country level, will be negotiated at the Community level.
- When participating countries have different economic institutions, policymaking at the regional level will entail a compromise between those institutions and may lead to a more efficient outcome in at least some of the member countries. For instance, if a regional pact leads to the adoption of a common external tariff of the country with the lowest tariff, at least some members must benefit.

However, Ronald Findlay of Columbia University questioned the view that the larger regional arrangements "dilute" the mischief that any single national "interest group" can do. "What about the possibility of wider coalitions forming that have more power to inflict mischief together in the wider union than their component factions could in isolation? Is 'fortress Europe' necessarily unlikely or improbable?" This issue is open to debate.

What history can teach

To date, regional pacts have been either among developing countries only, or among developed countries only. The former, referred to as South-South arrangements, give little reason for optimism, while the latter, called North-North arrangements, give mixed signals.

South-South. The review of the first wave of regional arrangements in Africa and Latin America at the conference revealed a consensus that they had failed in terms of their ambitious objectives of promoting integration via increased intraregional trade. To give a flavor of this, the table displays all regional arrangements for which the share of intraregional exports in total exports exceeds 4 percent. This is a modest cut-off point, yet in Africa and Latin America, only five of more than a dozen regional groupings pass this test, whereas in the industrial world, all groupings qualify for inclusion. Moreover, if we set the cut-off point at 15 percent, among these South-South groupings, only the Central American Common Market (CACM) makes the list—but even here, although the CACM boosted intraregional trade for a while, it, too, eventually lost steam. Thus the low and generally stagnant share of intraregional trade suggests that the scope for sizable gains from such integration is limited.

What does this teach us? Participants generally agreed that the primary lesson was that regional integration via preferential trading among developing countries was ill-advised. Not only was the implementation of such schemes poor, but the internal markets for South-South arrangements were too small relative to world markets to serve as the engine of growth. In the future, the role of regionalism among developing countries should be limited to cooperation in areas that are regional in character—for example, the building of educational institutions, regional environment problems, and infrastructural projects such as roads and dams.

North-North. Are there positive lessons for future integration schemes from the North-North arrangements, especially that of the EC?

There was a sharp disagreement among participants as to whether the EC had contributed to a more open trading environment within its member countries and the world as a whole. Alan Winters of the University of Birmingham took the position that although the EC generally had been successful, especially if one considers the political benefits of reduced tensions between France and Germany, its record is not without blemish.

He argued that the EC's role as the model for future integration is questionable; in some ways it has been inward-looking, to the detriment of both the EC and the rest of the world. He cited evidence of increased nontariff barriers on manufactures—the coverage of these barriers grew fivefold from 1966–1986—and quoted a remark made recently by EC Commissioner for Foreign Relations Willy de Clerq: "We are not building a single market in order to turn it over to hungry foreigners."

Mr. Winters also took issue with the view that the existence of the EC had been critical to tariff-cutting under the GATT. "The whole process occurred in a period of US hegemony: Did the USA really require the formation of the EEC (European Economic Community) be-

Free trade areas versus customs unions

When countries set out to create a regional trade arrangement, one of the critical issues they must face is whether to retain their own tariffs, as in a free trade area (FTA), or erect a common external tariff on extra-union partners, as in a customs union (CU). Economists are divided on which is better.

There are three main arguments in favor of FTAs.

- They do not result in an increase in tariffs in member countries. By contrast, when a common external tariff is imposed, countries with lower initial tariffs are able to raise their tariffs. This is because Article XXIV of the GATT requires that the external tariff be no higher than the average of the tariffs in the partner countries prior to the formation of the union.
- An FTA gives the member countries greater freedom to pursue trade policy reforms. In a customs union, more reform oriented countries may find their hands tied by the agreement to maintain a common external tariff. If lobbies are powerful, the common external tariff may be set at a level high enough to protect producers in the least efficient country in the union.
- Owing to enforcement difficulties under an FTA, the union finds itself importing goods through the border of the country with the lowest tariff. This puts pressure on countries with higher tariffs to bring their tariffs down to the level of the least protective country. Thus, there are dynamic processes at work in favor of ever-declining tariffs under an FTA.

In principle, however, at least some of these arguments can be turned on their heads.

- If a customs union is formed, the least protective country can force the more protective countries to lower their tariffs to its level. This will increase the likelihood that integration is welfare improving and result in a lower cost to the rest of the world.
- In practice, FTAs are accompanied by elaborate rules of origin and content requirements that become powerful instruments of protection. In a customs union, such rules are not required.
- If protection lobbies are active, their effectiveness may be diluted in a CU, since a CU requires union-wide lobbying, whereas in an FTA, tariffs are responsive to lobbying at the national level.

In the end, the issue seems to hinge on whether we can expect institutional arbitrage across countries to lead to superior outcomes for all, in which case a CU would be preferable. If such arbitrage leads to worse outcomes, then it would be better to leave each country with its own external tariffs. Perhaps put differently, if the "dominant" country, when one exists, has a liberal trade policy, a CU can be more desirable, since we can expect that region-wide tariff policies will be determined more by this country.

fore it started twisting European arms over tariff levels?" Moving on to agriculture, he argued that the EC resisted the inclusion of this sector in the GATT negotiations, thereby reinforcing agricultural protection throughout the world.

Andre Sapir of the EC Commission disagreed strongly. He said that despite the increased use of nontariff barriers, the level of EC external protection had not increased. To support this, he cited recent research that showed that the share of EC expenditures on imports of total processed products from members and nonmembers alike increased from 1980–91, while expenditures on domestic supplies declined proportionately. Thus there had been a "double (internal and external) trade creation." He also questioned Mr. Winters' judgement that European nations would have lowered tariff barriers even in the absence of the EC. With regard to agriculture, he took the view that in the absence of the EC, protection may well have been higher; after all, Switzerland and Nordic countries protect agriculture even more than the EC.

An open trading system

For developing countries generally, and for small countries in particular, access to developed country markets is vital. This means that the recent move toward a tripolar world and the difficulties of gaining further market access through multilateral trade talks raise the specter of isolation for those that do not belong to a bloc. Indeed, if it were not for this fear, it would be hard to explain why "small" countries (those with a small share of world markets) would be in a stampede to join existing blocs (Canada entered negotiations on NAFTA after the United States and Mexico announced their intention to negotiate).

John Whalley of the University of Western Ontario noted that, in some ways, these initiatives were equivalent to a vote of no-confidence in the ability of the present multilateral system to protect the interests of small countries. But in his view, the experience of the North American pacts may be that the small countries have to pay a high cost for their safe haven arrangements, in the form of exclusionary arrangements against their national interests (the Mexican auto market becoming a reserve for US suppliers with a concomitant loss in third country capital inflows).

Given the consensus that regionalism is here to stay, what can be done to ensure an open trading system that will protect the interests of the smaller nations? Participants made several suggestions that would help turn potential stumbling blocks into building blocks of a free world trade system.

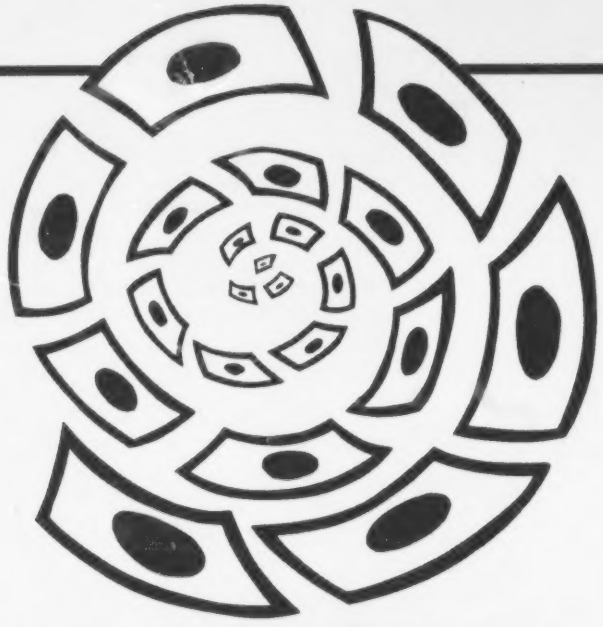
First, Article XXIV of the GATT, which sets the rules for the creation of regional arrangements, could be modified to rule out free trade areas (which allow countries to retain national tariffs on outside countries) and only allow customs unions (which require a common external tariff). Then, taking advantage of the fact that GATT partners have to "bind" their tariffs (once the rates are locked in they cannot be raised), this would ensure that all tariffs would come down to the lowest level prevailing in the union at the time of its formation (this is what happened when Greece, Portugal, and Spain joined the EC). Furthermore, a common external tariff eliminates the need for rules of origin, which have often become instruments of protection in the hands of a weak authority (see box).

Second, to fight the "New Protectionism," GATT Articles VI (antidumping) and Article XIX (voluntary export restraints) should be strengthened to minimize the use of nontariff barriers at the regional level. Finally, countries should be encouraged to design liberal rules of entry when creating a regional arrangement—in essence, ensuring that an existing arrangement would be open to any country willing to abide by its responsibilities. ■

A volume containing the proceedings of the conference, "New Dimensions in Regional Integration," is forthcoming in early 1993 from Cambridge University Press, edited by the authors. The World Bank and the Center for Economic Policy Research are publishing, in December 1992, a booklet based on the conference, "The New Regionalism in Trade Policy," by the authors.

Jaime de Melo
a US citizen, is the Chief of the Trade Policy Division of the Bank's Country Economics Department.

Arvind Panagariya
from India, is a Senior Economist in the Trade Policy Division of the Bank's Country Economics Department. He is also a Professor of Economics at the University of Maryland at College Park.



Liberalizing the Capital Account

DONALD MATHIESON AND LILIANA ROJAS-SUAREZ

The reduced effectiveness of capital controls since the 1980s led some industrial and developing countries to liberalize their restrictions on external financial transactions. Their experience suggests that sustaining an open capital account—which can promote efficiency and reduce financial risk—requires first putting in place carefully designed economic and financial policies.

As the ability to evade capital controls has increased in both developing and industrial countries during the past two decades, new constraints have been placed on the formulation of monetary and fiscal policies. This development has prompted governments to review the policy options available to deal with capital flows. Should tighter controls be imposed? Or should countries liberalize their restrictions on external financial transactions? Experience shows that maintaining tighter controls may be effective only in the short run and tend to be circumvented in the long run. Moreover, imposing extensive controls can create serious distortions and inefficiencies, including interference with trade financing.

For a more detailed discussion of specific examples, see "Liberalization of the Capital Account: Experiences and Issues," by the authors, IMF Working Paper WP/92/46, available from the authors. This will also be published as an IMF Occasional Paper.

The potentially adverse effects of a tightening of capital controls raises the issue of whether there are fiscal, financial, and structural policies that would allow a country to initially "live with" the capital flows that arise as the effectiveness of capital controls erodes and eventually to achieve and sustain an open capital account. This article reviews the issues and experience so far.

Why are capital controls less effective?

The most common restrictions on capital account convertibility have encompassed exchange controls or quantitative restrictions on capital movements, dual or multiple exchange rate arrangements, and taxes on external financial transactions. The use of capital controls by most countries has often been justified on four grounds:

- to help manage balance of payments crises or unstable exchange rates generated by excessively volatile, short-term capital flows;
- to ensure that the domestic savings of developing countries are used to finance domestic investment rather than the acquisition of foreign assets, and to limit foreign ownership of domestic factors of production;
- to strengthen the government's ability to tax financial activities, income, and wealth; and
- to prevent capital flows from destabilizing efforts to stabilize and sustain structural reform programs.

How effective have capital controls been in protecting domestic financial conditions from external influences and in preventing cross border movement of funds by residents and nonresidents in industrial and developing countries? Recent studies have shown that capital controls were typically most effective when they were combined with exchange and trade controls to restrict both current and capital account convertibility.

In both industrial and developing countries, however, the introduction of current account convertibility created a variety of channels for disguised capital flows. When there were large incentives to move

funds across borders (such as when large exchange rate adjustments were anticipated), these channels could generate large-scale capital flows. In the early 1970s, the collapse of the Bretton Woods system created the possibility of large exchange rate adjustments and was accompanied by large-scale (often illegal) capital flows that overwhelmed even the most comprehensive capital controls systems. Following the floating of the deutsche mark in early 1971, for example, Japan experienced large capital inflows despite a complex system of capital controls. Further, capital controls in many developing countries were less effective in stemming capital flight as unstable macroeconomic and financial conditions created substantial incentives for moving funds abroad.

During the 1980s, a number of developments may have helped either to increase the incentives for, or reduce the cost of, moving funds across borders, thereby helping to undermine the effectiveness of capital controls.

- Residents of developing countries saw large differentials between the real rates of return on holding domestic and external assets during the 1980s.
- The upsurge in capital flight during the late 1970s may have created a "learning-by-doing" effect that helped reduce the cost of evading capital controls.
- The development of a variety of new financial products and services may have made holding assets in offshore or industrial countries' markets more attractive.
- Deposits in major industrial country banking systems may also have been viewed as less risky than local currency deposits in the domestic banking systems in many developing countries, especially those experiencing financial crises and restructurings.
- Financing associated with the growth of illicit trade in drugs and other goods expanded; and channels that were developed to move funds derived from illicit activities could just as readily be used to move funds derived from other activities.

Implications for policy

The structural changes in the international financial system and other influences that have reduced the effectiveness of capital controls have strong implications for stabilization efforts and structural reforms. Increasing capital flight is likely to magnify the adverse effects of unsustainable fiscal and monetary policies on an economy. Moreover, fiscal policymakers will face greater difficulties in taxing financial incomes, transactions, and wealth. For example, high taxes on financial incomes and wealth can create a strong incentive for domestic residents to hold a significant portion of their wealth as external assets. Further, the strong incentives to repatriate external assets held by residents during the initial phase of adjustment programs can result in large capital inflows that could appreciate the real exchange rate. While sterilization has been used to limit the inflationary impact of these inflows, such operations increase the outstanding stock of government debt, driving up domestic interest rates and attracting additional capital inflows.

Should countries respond by attempting to tighten capital controls or by adapting to a more open capital account? Historical evidence suggests that whenever there are large incentives for capital flows, residents find channels for evading any new capital controls. Maintaining tighter controls can also be costly. Such controls can inhibit or heavily "tax" certain types of external financial transactions, limit access to international financial markets, and restrict competition in domestic financial markets. Further, as new channels for moving funds abroad have increased, so too have the costs of enforcing capital controls, monitoring violations, and prosecuting violators.

By contrast, a more open capital account can have a number of benefits. In particular, it would:

- promote efficiency gains in the international economy by encouraging specialization in the production of financial services;
- raise efficiency in countries' domestic financial sectors through increased competition from abroad;
- improve the global intermediation of resources from savers to investors by ensuring that savings are allocated to the most productive investments (assuming that financial markets appropriately price the risks and returns inherent in financial claims); and
- allow residents to hold an internationally diversified portfolio of assets, which would make their incomes less vulnerable to domestic shocks.

To benefit from a more open capital account, however, a country must be able to sustain the capital account convertibility it establishes. This raises two policy-related issues: (1) what difficulties are likely to be encountered when capital controls are initially relaxed and subsequently removed, and (2) what policies can be used to facilitate the transition to an open capital account and to sustain capital account convertibility.

Why Mexico sustained capital account liberalization

Mexico's recent experience illustrates the importance of the consistency between economic policies and structural reforms in supporting efforts to liberalize the capital account. The liberalization of the capital account in Mexico was a gradual process initiated in the mid-1980s. As with the Southern Cone experience, the comprehensive economic program introduced by the Mexican authorities in December 1987 was accompanied by a real exchange rate appreciation and a sharp increase in the peso-US dollar interest rate spread in favor of peso-denominated assets. In contrast to the Southern Cone experience, however, the Mexican Government reacted quickly and introduced a revised economic program in late 1988, which helped to improve the credibility of the exchange rate policy and to reduce real interest rates. Indeed, in order to reduce expectations of a large discrete devaluation, the exchange rate was depreciated by an announced one peso per US dollar a day from January 1989 to May 1990. In addition, to help reduce real interest rates, fiscal efforts were further intensified and the primary surplus reached 8 percent of GDP during 1989–90, constituting the largest fiscal effort in the recent history of Mexico.

Move toward liberalization

Countries have followed quite divergent strategies when attempting to establish capital account convertibility. While some countries (such as Argentina, New Zealand, the United Kingdom, and Uruguay in the 1970s) removed most of their capital controls in a short period, most countries have followed a more gradual approach of first relaxing constraints in trade-related capital flows (current account convertibility), then restrictions on longer-term foreign direct and portfolio investment flows, and finally on short-term financial flows. Both approaches have had their share of successes and failures. What is clear from these experiences is that capital account liberalization was undertaken as one element in broader stabilization and structural reform programs and that the credibility and consistency of other economic policies played a key role in determining its sustainability.

The experiences of some industrial and developing countries point out that the removal of capital controls was often accompanied by

a sharp expansion of *gross* capital inflows and outflows and, especially in developing countries, *net* capital inflows. In some developing countries, ex-post real domestic interest rates were high and, in some cases, large spreads developed between domestic and foreign interest rates. Moreover, in recent country experiences, the removal of capital controls has typically been associated with a real exchange rate appreciation, despite differences in exchange rate arrangements, the speed with which capital controls were removed, the ultimate sustainability of the capital account liberalization, or even whether there was a net capital inflow or outflow.

Some successes and failures

Mexico, New Zealand, and the United Kingdom are examples of countries that sustained their commitment to capital account convertibility, reflecting in part the fact that the removal of capital controls was just one element in comprehensive stabilization and structural reform programs. In addition, early steps were taken to establish the credibility of the government's commitment to reducing inflation through both fiscal reform and a tightening of monetary policy.

Other countries, for example the Southern Cone countries—Argentina, Chile, and Uruguay—failed to sustain an open capital account during the late 1970s. The sharpest real exchange rate appreciation occurred in the period after 1978 when a "passive" crawling peg exchange rate, which was adjusted to reflect the difference between domestic and external inflation rates, was replaced with published schedules ("tablitas") of future exchange rates, implying a reduction in the daily rate of exchange rate depreciation. As the rate of exchange rate depreciation declined, the spread between domestic interest rates (adjusted for the pre-announced rate of depreciation of the exchange rate) and external interest rates widened, providing domestic residents with an incentive to repatriate or borrow external funds to finance domestic expenditures.

In all three Southern Cone countries, the resulting inflows of foreign capital were accompanied by relatively slow declines in inflation and large real exchange rate appreciations. Many critics have argued that these real exchange rate appreciations led to a growing deterioration in trade balances and to expectations that the pre-announced exchange rate regimes would not be sustainable. The credibility of the reform programs was undermined by these developments, as reflected in renewed capital flight, a series of financial crises in the early 1980s, and eventually the abandonment of the liberalization efforts. Most analyses have concluded that inconsistencies between the "tablitas" and other macroeconomic, incomes, and financial policies were at the core of the difficulties encountered in maintaining capital account convertibility in these countries.

Preconditions for convertibility

The experiences of the Southern Cone countries, as well as those of countries in other regions, suggest that for a country to sustain capital account convertibility and reduce the associated financial risks, certain policies must be in place prior to opening the capital account. If these preconditions are not satisfied, then speculative capital flows may make it difficult to sustain an open capital account.

Donald Mathieson
a US citizen, is an Advisor in the IMF's Research Department. He has a PhD from Stanford University.

Liliana Rojas-Suarez
from Peru, is a Senior Economist in the IMF's Research Department. She has a PhD from the University of Western Ontario.

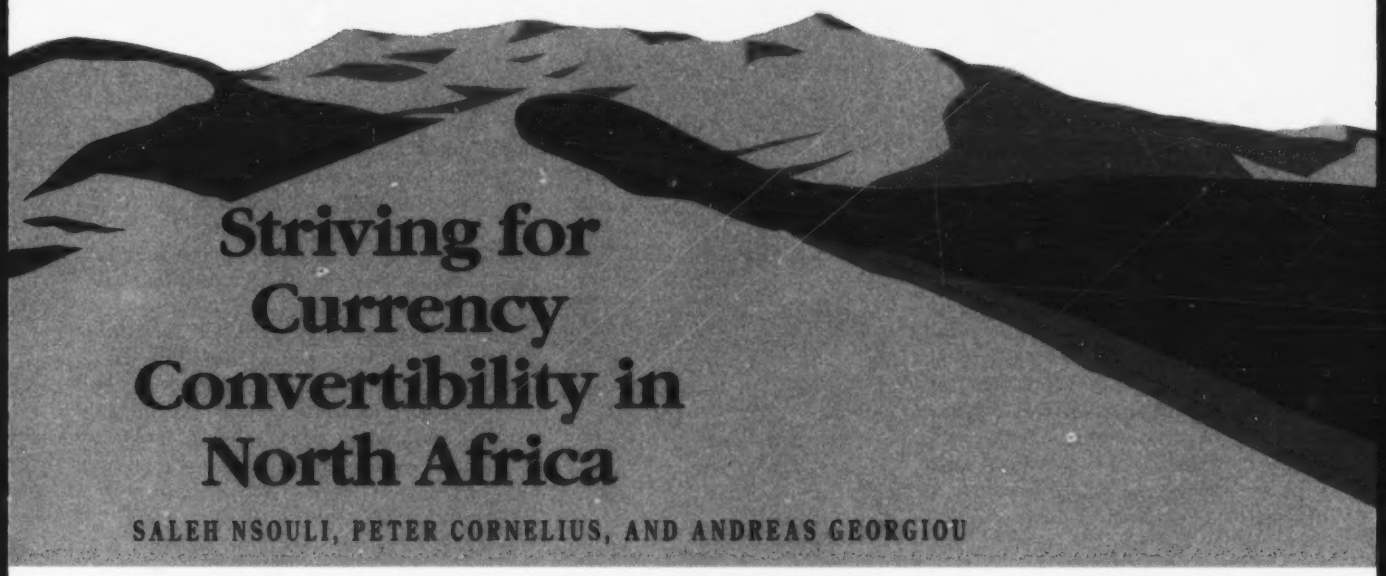
Fiscal reform. One of the key macroeconomic preconditions for opening the capital account is a fiscal reform that significantly reduces any fiscal deficit and finances any remaining deficit in a noninflationary manner. A large fiscal deficit financed by money creation would induce domestic residents to move money abroad to escape the "tax" that inflation places on real money balances (inflation tax). Indeed, in order to establish credibility that the reform program and capital account convertibility will be sustained, it may be necessary to initially undertake a more substantial fiscal reform than would ultimately be needed for price stability and sustained growth.

Carefully designing financial policies that minimize the differences between external and domestic financial market conditions. This means that domestic interest rates on "traded" financial instruments must be comparable (when adjusted for expected exchange rate changes) to those prevailing in international financial markets. In addition, the domestic financial system must be strengthened so that it can compete effectively with external financial institutions and withstand the effects of periods of high asset price variability. At a minimum, this will require restructuring any financial system with large holdings of bad debts and eventually rebuilding the capital positions in domestic financial institutions. Finally, the protection offered by the official safety net that underpins the domestic financial system must be clearly defined to prevent problems of "moral hazard."

Strengthening the safety and soundness of the domestic financial system. The dismantling of capital controls will lead to the introduction of new financial techniques and instruments, new sources of funds, and new participants in domestic financial markets. While such changes increase competitive pressures that can lead to efficiency gains, they may also introduce highly complex elements of risk that make the pricing of financial instruments more difficult and that can contribute to abrupt changes in credit flows once previously unforeseen risks become evident. The domestic system of prudential supervision must be improved prior to opening the capital account.

Avoiding imposing taxes that create strong incentives to move funds abroad. The experiences of the industrial countries with capital account convertibility have repeatedly demonstrated the need to harmonize domestic taxes on the financial system with those prevailing in other countries. Such harmonization should be done prior to the complete removal of capital controls if large-scale, tax-motivated, capital flows are to be avoided.

Removing restrictions that inhibit wage or price flexibility. The 1980s has witnessed periods of high asset price variability; and countries, especially those with an open capital account, must adapt their domestic economies and financial structures to withstand the effects of such variability. Such asset price variabilities can have especially adverse effects on employment, output, and wealth in economies with regulations and institutional arrangements that inhibit wage, price, and interest rate adjustments. Eliminating or reducing such regulations in institutional arrangements could play a significant role in allowing an economy to adjust more smoothly to both real and financial shocks. ■



Striving for Currency Convertibility in North Africa

SALEH NSOULI, PETER CORNELIUS, AND ANDREAS GEORGIOU

Currency convertibility is central to the mandate of the IMF, in that the IMF's Articles of Agreement call for "the elimination of foreign exchange restrictions which hamper the growth of world trade." Members accepting the obligations of Article VIII undertake, among other things, to refrain from imposing restrictions on the making of payments and transfers for current international transactions. As of September 1992, 72 out of more than 170 member countries had accepted these obligations; but, except for Djibouti, South Africa, and Swaziland, no African country had yet done so.

Three North African nations—Algeria, Morocco, and Tunisia—have been implementing adjustment policies in recent years to lay the foundation for allowing the free exchange of their domestic currencies for foreign currencies for trade and service transactions as well as for unrequited transfers. That is, they have been concentrating on the move toward "current convertibility," as distinguished from "full convertibility," which would entail removing exchange restrictions on both international current transactions and capital movements. Nonetheless, these three countries still face major challenges in establishing current convertibility.

The approaches of these countries have differed significantly:

- Morocco has followed the *preannouncement approach*. In 1991, King Hassan II announced the target date of 1993 to establish current convertibility, and the Government has adapted its policies to that end.
- Tunisia has followed the *by-product approach*. The Governor of the Central Bank of Tunisia explained recently that, while Tunisia has not set a specific target date, it envisages that convertibility will emerge as a result of the policies to promote growth and re-establish domestic and external financial balance under the Eighth Development Plan (1992–96).
- Algeria has experimented with what may be characterized as the *front-loading approach*. In 1991, it abolished a wide range of exchange restrictions on current international transactions, thereby coming close to establishing *de jure* current convertibility. But there was a marked shortfall in external financing. Even though the policies were reinforced, these turned out to be insufficient to offset the impact of the shortfall. Since foreign exchange reserves were low, foreign exchange had to be rationed. The Prime Minister of Algeria recently questioned whether the conditions for establishing convertibility in Algeria at present can be met.

The experience of these three countries offers insights, both on the scope of their adjustment efforts and on the relative merits of the differing approaches that could be helpful to other countries seeking a similar objective.

Why seek convertibility?

The great interest in convertibility in Algeria, Morocco, and Tunisia stems from the advantages resulting from the removal of exchange restrictions. In particular, the introduction of current convertibility helps eliminate distortions associated with foreign exchange rationing. It allows consumers and producers to make their decisions on the basis of price signals—provided there are no domestic administrative price rigidities and no distorting trade restrictions.

In addition, convertibility increases foreign competition by removing the protection afforded by exchange restrictions, thereby fostering improvements in domestic productivity. Moreover, current convertibility can promote a positive environment for investment, with salutary effects on economic growth. The benefits will be maximized, however, only by achieving full convertibility, insofar as the free flow of capital can help attract foreign investment.

There can, of course, also be negative transitional effects associated with the establishment of current convertibility, as the expansion of foreign competition could prompt the restructuring of domestic production and lead to temporary output losses. Furthermore, the move to full convertibility could result in capital outflows if the macroeconomic policies are perceived to be inconsistent with a stable domestic financial environment.

Some preconditions must be met

The experience of Algeria, Morocco, and Tunisia illustrates the complex and time-consuming adjustment policies and economic reforms that must be implemented to establish, maintain, and reap the benefits of current convertibility. Analytically, four critical preconditions have to be met if convertibility is to be successfully implemented:

- Internal financial balance must be established through sound fiscal and monetary policies to avoid excessive inflationary pressures that would tend to undermine the competitiveness of the economy and lead to a deterioration in the balance of payments situation, given the exchange rate.
- External financial balance must be achieved by setting the exchange rate at a level that would clear the demand for, and supply of, foreign exchange without exchange restrictions, given the macroeconomic policy stance.
- An adequate level of reserves must be maintained to allow the country to absorb domestic or exogenous shocks, without reintroducing restrictions, while domestic policies and/or the exchange rate are adjusted.
- The incentives system must be liberalized to allow the positive effect of convertibility on resource allocation to be transmitted to the rest of the economy.

In principle, the achievement of external financial balance is a necessary and sufficient condition for convertibility. Thus, if the exchange rate is allowed to float, the demand for, and supply of, foreign exchange will be equalized. However, if domestic financial policies remain excessively expansionary, inflationary pressures will build up, resulting in a continuous depreciation of the currency. In such an unstable environment, investment and growth would suffer. To prevent that, external and internal financial balance must be achieved simultaneously.

Liberalizing the incentives system is not strictly required for currency convertibility, but is needed for the achievement of allocative efficiency. Similarly, an adequate level of reserves is not absolutely essential, but is useful to provide a buffer against temporary shocks, which would otherwise have to be absorbed through short-term shifts in domestic policies or the exchange rate, and as a cushion that would allow some margin for introducing policy adjustments to tackle more permanent shocks.

The experience

Algeria, Morocco, and Tunisia have all made substantial progress in meeting the preconditions for convertibility through comprehensive adjustment policies and the liberalization of their economies, although, to varying degrees, they still need to exert considerable efforts.

"The experience of Algeria, Morocco, and Tunisia illustrates the complex and time-consuming adjustment policies and economic reforms that must be implemented to establish, maintain, and reap the benefits of current convertibility."

Internal balance. To align aggregate demand with available resources, while avoiding squeezing the private sector, the three countries have focused on achieving a sustainable improvement in their budgets. Morocco, which had a budget deficit—on a commitment basis and excluding grants—of 9.6 percent of GDP in 1985, reduced it to 3.1 percent in 1991. Tunisia succeeded in reducing its budget deficit from 5.7 percent of GDP in 1989 to 4.1 percent of GDP in 1991. In Algeria, the overall Treasury balance turned from a deficit of 2.4 percent of non-oil GDP in 1989 to a surplus of 6 percent in 1991.

The improved budgetary positions have permitted a relatively more restrained monetary policy stance, although the record has been mixed. In Morocco, the liquidity ratio (broad money over GDP) has been increasing since 1986. This was the case particularly in 1990–91, which saw a strong increase in credit and an ensuing jump in the inflation rate, as measured by the GDP deflator, from an annual average of 4.5 percent in 1988–89 to approximately 7 percent in 1990–91.

In Algeria, the liquidity ratio had been increasing through most of the 1980s. When prices were decontrolled, the pent-up pressures of the excess liquidity were partially released, contributing to an increase in the average annual inflation rate from about 10 percent in 1988–89 to some 25 percent in 1990–91.

In Tunisia, credit policy has benefited from the reduction in the budget deficit since 1989, as reflected in a slowdown in monetary expansion, which helped hold Tunisia's rate of inflation to around 7 percent, in spite of the liberalization of prices.

External balance and reserves. The extent to which a sustainable external sector position has been achieved can be gauged by the degree to which the exchange rate has been allowed to equalize the demand for, and supply of, foreign exchange, the extent to which trade and payments restrictions have been reduced, and the ability of the country to service its debt.

All three countries have followed relatively flexible exchange rate policies, significantly adjusting their exchange rates in recent years to effect real depreciations. Their rates are currently pegged to weighted baskets of the currencies of their main trading partners. The gap between the parallel market rate and the official rate has been virtually eliminated in Morocco and Tunisia, but persists in Algeria.

These countries have also taken steps toward liberalizing their trade and payments systems, although Algeria began much later than the other two. Morocco and Tunisia started progressively reducing quantitative trade restrictions in the mid-1980s. As a result, by 1991, the share of imported goods subject to quantitative restrictions had declined to 10 percent in Morocco and 26 percent in Tunisia.

There was also a significant reduction in current exchange restrictions. Morocco maintains current exchange restrictions only on a few service transactions, while Tunisia's current exchange restrictions cover only imports that are subject to quantitative restrictions but still apply to most service transactions.

By contrast, Algeria continued to maintain strict controls until 1990, when a sweeping reform of the trade and payments system was introduced. Under this reform, special types of importers were permitted to import and sell a wide range of goods without restrictions by making payments through newly created foreign exchange accounts. At the same time, the government raised foreign exchange retention ratios and liberalized the repatriation of profits from foreign investment. In early 1991, it abolished all import licensing restrictions, and all importers were given access to foreign exchange at the official exchange rate. However, as the demand for foreign exchange could not be fully satisfied, the government instructed commercial banks to help importers find foreign credits on the basis of specified terms to make payments on current account transactions. Thus, exchange restrictions on current international transactions were enforced by specifying minimum financing terms.

Tunisia has had a manageable debt service ratio, which declined from nearly 28 percent in 1986 to about 24 percent in 1991, and has not sought debt relief. Morocco, which had a debt service ratio of over 70 percent in 1986, benefited from considerable debt relief, and pursued a debt policy that enabled it to reduce its debt service ratio to some 40 percent in 1991. At the last rescheduling meeting of the Paris Club, Morocco indicated that, in view of its improved external sector position, it would not seek further debt relief. In contrast, Algeria has witnessed a jump in its debt service ratio from some 35 percent in 1985 to over 70 percent in 1991, indicating an unusually heavy debt-servicing burden, but has not generally sought debt relief.

With respect to the buildup of gross international reserves, Morocco had reached a relatively comfortable level, equivalent to 4.4 months of imports of goods and nonfactor services at the end of 1991, thereby providing it with an adequate cushion to absorb potential shocks. By the end of 1991, Tunisia had accumulated reserves equivalent to 1.6 months, while Algeria's level of reserves had reached the equivalent of 2.3 months.

Incentives system. All three countries implemented important reforms aimed at expanding the role of market forces, including liberalizing prices; decentralizing ownership and reforming public enterprises; lowering import tariffs; and reforming the financial sector.

Algeria, which had already implemented some liberalization measures in the mid-1980s, has made major strides since 1989. A number of commodities have been moved from a controlled price list to a markup-ceiling list or to a list of prices without controls, while administered prices have been raised substantially to reflect world market prices and production costs.

In Morocco, price liberalization started in the early 1980s. Today, direct price controls apply to only a few products. In Tunisia, price liberalization was initiated in 1985, when 95 percent of agricultural and manufactured prices were controlled. Since then, approximately 80 percent of production prices of manufactured goods and virtually all agricultural producer prices have been liberalized.

All three countries enhanced their liberalization efforts by decentralizing ownership and reforming public enterprises. In Algeria, where the industrial sector had been governed by a Central Plan that established priorities and allocated investment funds, several thousand publicly owned agricultural properties were restructured in 1988 into smaller private enterprises on the basis of long-term land leases. In 1989, public enterprises were granted autonomy in their production, employment, and investment decisions. The legal framework governing private sector firms was also liberalized. The energy sector was opened to foreign investment, marking a sharp departure from the previous, restrictive legal framework.

While the role of the state has been less dominant in Morocco and Tunisia, both countries have embarked on programs to privatize and reform the operations of public enterprises, as well as to allow their pricing policies to better reflect market forces.

To enhance efficiency and competitiveness, all three countries have substantially lowered import tariffs. In Algeria, a simplified tariff structure was recently put in place and the maximum tariff reduced. In Morocco and Tunisia, the maximum tariff rates were reduced from several hundred percent in the mid-1980s to some 40–45 percent by the end of 1991.

These countries have also been paying increased attention to the reform of their financial sectors. Until recently, for example, most interest rates were subject to administrative controls. In early 1989, however, Algeria simplified the rate structure, narrowed the range of preferential rates, and allowed much greater latitude for banks to negotiate rates with their customers. Morocco and Tunisia had already moved on this front starting in the 1980s, but introduced significantly greater flexibility in interest rate determination over the last three years.

Concluding observations

Notwithstanding the progress that Algeria, Morocco, and Tunisia have made thus far, they still face serious challenges—albeit to different degrees—to satisfy the preconditions for the establishment of current convertibility, including the need to further strengthen their fiscal positions, to eliminate the remaining distortions in the incentives system, to avoid an overvaluation of the currencies, and to maintain or build up international reserves.

The experience of, and the remaining challenges facing, these three countries lead to a number of observations:

• *The establishment of current convertibility can be viewed as the culmination of a successful adjustment process.* It is thus complex and time-consuming, involving wide-ranging structural reforms and prudent demand management policies. The sustainability of convertibility will depend on continued appropriate macroeconomic policies.

• *The preannouncement approach essentially subordinates all objectives and policies to the achievement of convertibility.* The benefits are that the focus of policies is clearly set, and slippages must be promptly corrected to meet the preannounced date. The risk is that, should all the preconditions not be satisfied

Peter Cornelius
a German citizen, is an Economist in the IMF's Policy Development and Review Department. He was educated at the University of Göttingen and the London School of Economics.

Andreas Georgiou
a Greek national, is an Economist in the IMF's Policy Development and Review Department. He holds a PhD in economics from the University of Michigan and was also educated at Amherst College.

Saleh Nsouli
a US citizen, is Assistant Director of the IMF's African Department. He holds a PhD (Economics) from Vanderbilt University, and has served in the IMF's Research and Middle East Departments.

by the set date, a delay could result in loss of credibility and biased expectations. Morocco has thus given the highest priority to achieving current convertibility in 1993, targeting the attainment of near budgetary balance in 1993; moving to eliminate virtually all quantitative restrictions on imports, reduce tariffs, and simplify trade, customs, and port procedures in 1992; and forging ahead with the restructuring of the public enterprise sector and the revision of the investment code.

• *The by-product approach makes convertibility a lower priority issue in policy decisionmaking.* The risk is that, as a result, it might take longer to establish convertibility. But because no date has been announced, there is no danger of loss of credibility and biased expectations. This approach is exemplified by the timetable being pursued by Tunisia. A progressive reduction in the budget deficit to 1 percent of GDP by 1996 is envisaged; virtually all quantitative restrictions are expected to be removed and interest rates are to be fully liberalized by end-1993; price controls are to be abolished by 1994. During this period, Tunisia will continue to build up its international reserves.

• *The front-loading approach essentially requires the immediate establishment of external balance and involves a concerted policy push in all economic and financial areas.* But it runs the risk of not being sustained if the macroeconomic policy stance is inappropriate, if the exchange rate is not allowed to move, or if the reserve level is inadequate. Algeria's attempt in 1991 is indicative of the scope of the policy effort required to sustain convertibility under such an approach.

"Although the satisfaction of the precondition for, and the establishment of, current convertibility will have beneficial effects on growth and financial stability, the full benefits will only materialize with the introduction of full convertibility."

Although the satisfaction of the preconditions for, and the establishment of, current convertibility will have beneficial effects on growth and financial stability, the full benefits will only materialize with the introduction of full convertibility. To do so without major risks of capital outflows, however, current convertibility must be sustained for a while and the prospects for the continuation of sound macroeconomic policies be clearly in evidence, in order to bolster the confidence in the currency of the country. ■

JUST PUBLISHED

Health Adults Developing World

Richard G.A. Feachem, Tord Kjellstrom, Christopher J.L. Murray, Mead Over, and Margaret A. Phillips, editors

Examines problems that lead to adult ill-health – such as infectious diseases and poor nutrition – and suggests ways to deter them. Discusses cost-effective preventive options in case management and primary and secondary care, along with ways to reduce the severity of many diseases.

Hiroshi Nakajima, Director-General, World Health Organization in his Foreword says, "By focusing more attention on this age group, we can hope to improve its health status and productivity and ultimately the quality of life of the entire population."

Published for the World Bank by Oxford University Press
360 pages / ISBN 0-19-520879-X / $34.95

Name _____

Address _____

City/State _____ Postal Code/Country _____

Customers who send payment or charge with a credit card should add $3.50 shipping and handling. Those institutions ordering with a purchase order will be charged actual shipping and handling charges.

❑ Enclosed is my check for US$ _____ payable to World Bank Publications.

❑ Charge my ❑ VISA ❑ MasterCard ❑ American Express ❑ Eurocard
(American Express accepted only for orders to Washington, D.C. Eurocard accepted only for orders to Paris.)

Credit Card Number _____ Expiration Date _____

Signature _____

❑ Please bill me (institutional customers only) _____
Include purchase order or list order number

Coupon orders accepted only from the U.S.A. and France. To order from other countries, request a list of World Bank Publications Distributors. Prices vary by country.

In the U.S. return the coupon to:
World Bank Publications
P.O. Box 7247-8619
Philadelphia, PA 19170-8619

In France return the coupon to:
World Bank Publications
66, avenue d'Iéna
75116 Paris, France

BOOKS

Currencies and Monetary Policy: Searching for an Effective Approach

Paul Volcker and Toyoo Gyohten (edited by Lawrence Malkin)

Changing Fortunes

The World's Money and the Threat to American Leadership

Times Books, New York, NY, USA, 1992, xix + 394 pp., $25.

Changing Fortunes should be required reading for the incoming US Secretary of the Treasury and, for that matter, all finance ministers and central bank governors of major industrial countries. This is not because it is such a well-written (and edited) book or an easily accessible review of a complex aspect of recent history—which it is. Instead, it should be read because it is a look at the past that is remarkably relevant to the challenges faced today by those responsible for moving the world economy out of its sluggish state to a new path characterized by low inflation and expansion. This authoritative story of the evolution of the Bretton Woods system, from its inception through 1991, informs us of the lessons learned, and shares with us much of the wisdom gained from this period.

The authors were both centrally involved in the development and management of the par value system, as well as the turbulent transition to today's floating rate system. For those who are mostly familiar with Volcker as the Chairman of the Federal Reserve Board from 1979 through 1987, there are fascinating accounts of his prior experience as an officer in the US Treasury, dating from 1957 through the mid-1970s (with some occasional excursions into private banking). Toyoo Gyohten was a career official in the Japanese Ministry of Finance, whose distinguished career culminated with appointment to the key policy position of Vice Minister for International Affairs.

The book is built around a series of lectures given by the two authors at Princeton during 1990 and 1991. Each writes on a particular period—such as the breakdown of the par-value system—from his particular vantage point. Throughout the book, Volcker and Gyohten remind us that in some respects history does indeed repeat itself, and that efforts to cope with today's problems could benefit from the insights gained from earlier experience. Consider for example, the following excerpt:

> *"Once the principle of easy exchange rate changes, however small, was agreed, it seemed to me that speculative changes in the market would make it extremely difficult to resist larger changes and would probably cause them quickly....Experience strongly suggests that a "flexible fixed-rate system" is more than a verbal oxymoron; it has inherent contradictions that tend either to tear it apart or to drive it to greater fixity." [Or both, I would add]. (pg. 69)*

This is not a comment on recent developments in the European exchange rate mechanism, although much of the quote could certainly apply. Instead, it is Paul Volcker reflecting on the efforts of the United States to introduce flexibility into the Bretton Woods par value system in 1969, when it was becoming increasingly clear that the dollar was overvalued and that a devaluation was needed.

More than once we are reminded of the problems that can spread in a monetary system when the anchor country—and currency—is unable to deal with fiscal strains at home. For example, there were many factors that contributed to the demise of the par value system, but certainly one of them was the difficulty the United States experienced in responding to the economic pressures of the Vietnam War. To quote Volcker in two separate but related passages, "our inability...to take actions to restrain the economy against the economic stimulus of Vietnam spending seems to me and many others the beginning of the inflationary process that plagued us for years....Shouldn't the United States have been more rather than less responsive to the discipline of the system in shaping domestic policy?" (pg. 38)

One might find some parallels here (undoubtedly debatable and imperfect) with US fiscal performance in the 1980s, or even with the German role in recent ruptures in the European exchange rate mechanism. Although the factors underlying the recent market-forced depreciation of the pound and the lira are complex—and derive substantially from difficulties in the United Kingdom and Italian policies themselves—Germany's contribution to the problem as the anchor of Europe cannot be overlooked. High interest rates in Germany, which have had such a dampening effect on growth prospects throughout Europe, are a direct reflection of the difficulty that Germany has had in taking the measures needed to offset the spending increases brought about by unification.

This raises a perplexing question relating to all three post-war international monetary "systems"—the par value system, the "wide open" flexible rate system of the late 1970s and early 1980s, and the more "constrained" flexible system of the mid- to late-1980s: why have we been unable to devise a system that exerts some degree of discipline, short of abrupt market-imposed pressures, on the domestic (particularly fiscal) policies of the major industrial countries? A common answer is that our parliamentary democracies do not lend themselves well to internationally coordinated fiscal policy. In addition, as Volcker points out, the lags involved in fiscal policy formulation and execution make delivery and monitoring particularly complicated. These are undoubtedly legitimate points. And yet one is inclined to conclude after reading this book that we have little choice but to continue searching for a more effective approach if we are to preserve the open trade and payments system and expanding world economy that have characterized the post-war system to date. Can anyone really look at the current global economic outlook and not see the pressing need for more external constraints on G-7 fiscal policies?

The discussion by Volcker and Gyohten of the efforts in the mid-1980s to develop a system of economic policy coordination following the Plaza Accord sheds further light on this dilemma. Although much of the attention at the time of the Plaza was given to the exchange rate provisions of the Accord, Gyohten does an excellent job in this book sketching out the process of economic policy coordination that evolved following the Plaza, including the nascent development of a set of "economic indicators" to help guide policies and performance toward mutual goals. (Since this was a Finance Ministry-driven exercise, Volcker was somewhat less involved in the formative stages.)

As Gyohten states, at the Tokyo Summit in May of 1986,

"Economic Indicators were introduced and accepted, and there were some efforts, particularly from the American side, to introduce a certain amount of automaticity in this policy coordination—targets would be set, and if actual economic performance deviated significantly, a government would have to act to try to meet the goals of growth, inflation, or whatever." (pg. 262)

The effort produced some results, including the coordinated interest rate moves of 1986 and 1987. Fiscal measures were somewhat less pronounced; although the Japanese supplementary budget of October 1986, the commitment by the German Government to accelerate tax reductions in early 1987, and the US bipartisan budget agreement of late 1987 all were influenced, to some degree, by the policy coordination framework. As Gyohten suggests, "the initiative taken by the United States to institutionalize coordination and align exchange rates was a very positive and an almost historic step." (pg. 263)

Almost, indeed. A major opportunity to strengthen the system has been missed, as the policy coordination process was not adequately institutionalized, and its impact on policy in recent years has waned. The policy coordination thrust represented a genuine effort on the part of the United States, with strong support from France, to reintroduce some "rules of the game" into the international monetary system that could have applied to the domestic policies of major industrial countries, both deficit and surplus countries.

Both Gyohten and Volcker correctly point out that the effort was not without its flaws. Gyohten argues that the process was dominated too heavily by US efforts to make a political deal while Volcker underscores the technical difficulties encountered and the fact that "objective indicators" could never substitute for informed policy judgment.

I can agree with all of those criticisms, but I remain perplexed as to why none of the leaders of the other G-7 countries, with the exception of France, seized the opportunity to address a growing preoccupation—how to steer US policies toward, what they saw as, an internationally responsible course. Perhaps each country was more concerned about the *potential constraints* on its own policy choices than with the *potential benefits* to all, from the collective discipline that could have been developed. It seemed to me, then and now, that policy coordination held out the best hope of developing a framework of "pragmatic discipline," which could turn on a "yellow caution light" when a country veers off an intended course, and direct an even stronger spotlight on the need for corrective action if the deviation is a substantial and persistent one. Although a presumptive indicator system will never substitute for political will, it can help foster the pressures for remedial action, and can assist in the building of a monistic consensus in support of needed policy changes.

The title of the book speaks to the declining fortunes of the United States and the improving fortunes of Japan during the postwar era. It is a story that is well known and well documented, but the series of lectures embodied in this book give this evolution a special definition, as each author describes the evolution of his country's fortunes from his own national perspective.

In the end, however, the US/Japan story comes across as a secondary one. At the heart of this work is the story of dedicated financial leaders, such as Paul Volcker and Toyoo Gyohten, serving their country but also advancing the broader interests of the global commonwealth through their sagacity and vision. Indeed, the postwar economic prosperity realized by the industrialized countries has been no accident, nor was it simply the result of farsightedness of those present at Bretton Woods. The system required attentive nurturing and active management by capable men such as Volcker and Gyohten.

This book serves as a clear signal of the risks of taking for granted what the open trade and payments system has brought us, and of the need for continuous efforts to reinforce and strengthen that system. If we are to succeed in this effort, we will need broad-minded and dedicated individuals to help guide us through the 1990s, and to continue our collective efforts to find a global monetary system that can help frame a renewed expansion of the world economy with low inflation.

Charles Dallara
Former US Executive
Director at the IMF

Roger D. Stone

The Nature of Development

A Report from the Rural Tropics on the Quest for Sustainable Economic Growth

Alfred A. Knopf, New York, NY, USA, 1992, ix + 286 pp., $23.

In an earlier generation it was (a trifle prematurely?) the fashion to say "we're all Keynesians now." Well, are we all environmentalists now? What began, some decades ago, as a marginal, quaint eccentricity has mushroomed into a generalized concern. The activists, in spite of some of their more bizarre (and comical) pretensions, have succeeded in raising public consciousness on the questions of ecological balance, diversity, and even survival; they should be commended for it.

Making people aware is one thing; propelling them into effective action and persuading them to pay for it—in terms of a check on living standards in the North and perhaps lower growth rates in the South—is another. In economic parlance, is the trade-off between economic progress and environmental protection acceptable?

That, at least, has been the dilemma as traditionally posed. Now the argument has shifted, and this book is a good exemplar of the new approach, namely that there is a natural convergence between development and environmentally sound policies, and that, in truth, there is really no trade off. *Higher* growth and a *better* environment go hand in hand. "Synergy" is the new byword.

This reviewer is an agnostic suppliantly yearning for conversion. Specifically, if the postulate that it is possible for the world economy, in particular the poorer segments of it, to achieve more sustainable and at the same time environmentally sound growth, and hence to leave behind the abyss of world poverty while improving the environment, then all power. Seen in the perspective of economic growth of the past two centuries, the argument certainly appears counterintuitive. But the combination of a broadly accepted conviction, together with rapidly developing technologies, may make it possible.

Roger Stone makes an important contribution to the debate. Neither sanctimonious nor alarmist, he has written a serious book that has the immediacy of a good travelogue. There is much first-hand anecdotal evidence that should be as instructive as the reams of suspect "data" so portentously dredged up in the public

debate. Stone presents a breezy synthesis of economic history, development, and environmental issues, melding the general with the particular, and marshaling a mass of disparate information into a highly readable, cohesive narrative.

The book is not totally without blemish: the population issue is largely neglected; too much credence is given to the views of development economists; the paucity of aid is lamented while recognizing its limited contribution to development; "bottom-up" planning (whatever it means) is highly commended, but it is not clear what happens when the "bottom" becomes wealthier, develops interests beyond survival, and changes its priorities; and so on (including several factual errors).

A fundamental question in the public debate on this issue has been, do people have to become rich before they can afford the luxury of worrying about the environment? Some, including many in the South, have answered yes. Others maintain that this is a false question, and that the only way to grow out of poverty is to combine development with environmental concerns. Stone is firmly of the latter persuasion; for all our sakes, let us hope he is right.

Bahram Nowzad

Paul Krugman

Geography and Trade

The MIT Press, Cambridge, MA, USA, 1991, vii + 142 pp., $17.95.

Read this book! Too busy? Then cancel a meeting, let a report go unread, stay up all night on your next transatlantic flight—whatever you need to do, just read this book. Why? Krugman is a master at getting sharp insights out of simple ideas—here, insights into the economic development of nations from basic principles of economic geography.

Nonagricultural economic activity is not evenly spread across the map, but is highly concentrated. Geographers studying this concentration usually focus on the formation of cities. But the same patterns are found in concentration of industry (and more recently, services) in certain "core" regions, leaving other regions on the "periphery." Examples of core regions are the old manufacturing belt in the United States from the Great Lakes to New York City, the "industrial triangle" in northwestern Europe, and on a grand scale, the industrial countries as a whole.

Concentration of industry requires economies of scale and significant transportation costs. Because of transportation costs, industries wish to be close to markets. But economies of scale mean that it is not economical to have tiny production units evenly spread across space. If each firm is only going to have one plant, firms will want to locate that one plant where other firms are located, in order to be close to the markets created by other firms' purchases (and those of their workers). The formation of the core region will be a circular process: final goods producers locate where the input suppliers are, and the input suppliers locate where the final goods producers are. Producers of highly specialized services find it attractive to locate in the core, in turn making the core even more attractive. Companies in the core benefit from technological spillovers through the easy sharing of information at close proximity. Multiple virtuous circles make the core region dominant and long-lasting.

The viewpoint of Krugman's geography models is the opposite of the traditional economic model. In the traditional model, underdeveloped regions should find it easy to attract capital because of their cheap labor. In Krugman's model, backward regions find it hard to attract capital because no other capital is there to provide a compact market, and to share specialized services and technological knowledge. If a critical mass of capital can be attracted, the region will take off; if it cannot, it will not. The original establishment of a core is as often as not an historical accident—many regions could potentially be a core if only somebody can get the ball rolling.

This point has not been lost on developing country governments, who often try to get a core for their nation through industrial policy, export processing zones, tax holidays, or even protectionist trade policy. Why do these efforts so often fail, yielding nothing but vacant industrial parks? Such failures are not limited to developing countries. The documentary *Roger and Me* described the ludicrous attempt of Flint, Michigan, to replace the declining auto industry with an amusement park called "AutoWorld." It is often too hard for governments to compete with the existing core regions—what is a virtuous circle for the core is a vicious circle for the periphery.

But all is not lost for the periphery. Krugman points out that economic integration—openness to international trade—will in the long run benefit both core and periphery. And while cores last a long time, they do not last forever. The US manufacturing belt, dominant for a century, is now called the Rust Belt; the former periphery is now the vibrant Sun Belt. New cores may be forming in the developing world in coastal China, southeast Asia, northern Mexico, and elsewhere. The former Soviet Union and Eastern Europe are ripe for development of new cores. Read this book to get your own insights into the fascinating geography of regional development.

William Easterly

Isher Judge Ahluwalia

Productivity and Growth in Indian Manufacturing

Oxford University Press, New Delhi, India, 1992, xiii + 242 pp., Rs. 250.

In her first book, *Industrial Growth in India: Stagnation Since the Mid-Sixties* (Oxford University Press, 1985), which showed how infrastructural bottlenecks inhibited Indian industrial growth, Isher Ahluwalia did not give Indian policymakers much cause for cheer. But in this, her latest book, she has better news. After analyzing a vast amount of data on the organized sector of Indian industry both across branches and over time, she concludes that, after a decade and a half of "industrial drift," there are definite signs, since 1980–81, of not only a boost in industrial growth but also of improvement in productivity of Indian industry.

The focus of the book is on total factor productivity growth (TFPG)—the growth in industrial output or value added that cannot be accounted for by growth in capital and labor—in Indian industry. Ms. Ahluwalia arrives at two clear findings. First, compared to the Far Eastern Tigers (Hong Kong, Republic of Korea, Singapore, and Taiwan Province of China), and many other economies (including Argentina, Chile, Egypt, Indo-

nesia, and Thailand), India has done rather poorly in terms of the TFPG. Second, there was a marked increase in the ratio of capital to labor in the Indian manufacturing sector and negligible TFPG during the early 1960s.

After the emphasis on capital intensive heavy industries up to the mid-1960s, there followed a period of industrial drift to the late 1970s, with a slowdown in the growth of value-added and capital stock, while TFPG continued its disappointing show. The change for the better came in the first half of the 1980s, with a pronounced acceleration in industrial growth, stemming not from a corresponding step-up in factor deployment but from a distinctly better TFPG performance.

Ms. Ahluwalia offers some plausible explanations for the turnaround in Indian industrial performance during the early 1980s: better investment and management of the infrastructural sector, absence of a wage goods constraint, and liberalization of the restrictive industrial and trade policy framework. Alas, these hypotheses have not been, and cannot be, tested within her TFPG framework of analysis. For by its very nature, TFPG, in her framework, is at best a variable "explained" by time or, at worst, a residual of an econometric exercise. More research will be needed to test Ms. Ahluwalia's important conjectures.

Further, Ms. Ahluwalia neglects to discuss the role, if any, that oil price shocks, transfer of technology from abroad, and indigenous research and development have played in changing TFPG in Indian industry. Similarly, a more complete story will be needed about the relative TFPG in public enterprises and the private sector, as well as the impact of relative prices on aggregate productivity in Indian industry. Did the infrastructural bottlenecks, wage goods constraint, and policy framework progressively deteriorate or remain unchanged at their inefficient levels during the period before the turnaround in the early 1980s? If they remained inefficient, why did profit maximizing firms produce less and less with the same amount of inputs, as evidenced by the negative TFPG during the period of the industrial drift?

As Ms. Ahluwalia has shown in her analysis of interindustry differences in TFPG, growth in value added improves TFPG performance. Since TFPG promotes growth by definition, there is a virtuous circle between industrial growth and TFPG. It is the exploitation of this virtuous circle that is the engine of economic development. Ms. Ahluwalia has made an important contribution in identifying different phases of this circle in India. It will be invaluable if future research can determine with more precision the policy decisions and exogenous circumstances that led to the transition from a period of mediocrity to one of dynamism.

Ashok Lahiri

Richard N. Cooper

Economic Stabilization and Debt in Developing Countries

The MIT Press, Cambridge, MA, USA, 1992, xv + 195 pp., $24.95.

This small volume based on three public lectures given by Cooper—two Ohlin lectures in Stockholm, and a Wallenberg lecture in Washington, DC—covers the links between stabilization and growth. Cooper examines the experience of developing countries faced with the oil shocks of the 1970s and the debt crisis of the 1980s. He points out that the global slowdown in growth has shifted the main economic concern in developing countries from long-term growth to stabilization and adjustment. The ordering of the book is largely chronological; for those readers who lived through the past twenty years, it provides perspective on events, and for younger readers, it offers a good, concise account of recent economic history.

The first two chapters present an extremely lucid description and analysis of how developing countries adjust to external shocks. To illustrate this, Cooper draws on World Bank empirical data covering 18 developing countries. In particular, he carefully analyzes the retrenchment these economies had to make following the two OPEC oil shocks and a disturbance in the coffee market. This approach is useful for several reasons, not least because it develops the causes of the debt crisis. There is also a critical but balanced discussion of the role of the IMF in adjustment programs. The author makes use of data and details in a way that complement and aid the analysis. His discussion of political institutions is also fashioned around the economics in effect during that period.

Perhaps the most interesting part of the book is chapter 3, in which Cooper debunks four conventional explanations for why developing countries have historically had such disparate performance. He argues convincingly that there is no correlation between the size of the shock, the openness of the system, political institutions, or inflation, and growth. Rather, he states that relatively stable real exchange rates, disciplined fiscal policy, and occasional financial assistance are important in fostering growth and development.

The final two chapters examine the question of external debt. In looking for the origins of the debt crisis, Cooper eschews the practice of many writers to blame either the banks for bad lending practices, or policymakers for bad policy, not because errors were not made—they certainly were—but because, by and large, economic agents and institutions were behaving as they were expected to, and as they had in the past. Instead, Cooper suggests that the roots of the debt crisis are to be found in the large shocks to the international system—primarily the two oil shocks—and that there was no way of avoiding the negative repercussions. He goes on to make a case for Professor Kenan's International Debt Discount Corporation and perhaps gives less credit to the successes of market-based debt reduction schemes than some other analysts would, but this is something that will only be known with the passage of time.

Richard Haas

New readers who wish to receive *Finance & Development* regularly should apply in writing to Subscription Services, *Finance & Development*, International Monetary Fund, Washington, DC 20431, USA, specifying the language edition and briefly stating the reasons for their request. The contents of *Finance & Development* are indexed in Business Periodicals Index, Public Affairs Information Service (PAIS), and Bibliographie Internationale des Sciences Sociales. An annual index of articles and reviews is carred in the December issue.

Cover: Richard Stoddard. Photo in cover: Ray Witlin; Art on pages 2,3,41,44,45: Luisa Watson; pages 5,6,7,28,37: Lew Azzinaro; pages 24 and 34 Eric Westbrook; page 9: Dale Glasgow. Charts: Dale Glasgow, Luisa Watson, Betty McGuire. Bank photos: M. Iannacci. IMF photos Denio Zara and Padraic Hughes-Reid.

A.J.C. Britton

Macroeconomic Policy in Britain: 1974–87

Cambridge University Press, New York, NY, USA, 1991, x + 365 pp., $59.50.

This book, by the director of the National Institute of Economic and Social Research, follows two well-known studies of earlier historical periods by Christopher Dow (1964) and Frank Blackaby (1978). Like its predecessors, it is sure to become a basic text for students of British economic policy. The period it surveys is without doubt the most eventful in postwar economic history, spanning as it does the aftermath of two major oil shocks, the demise of the Keynesian consensus, and the great "monetarist experiment." It ends, perhaps fortuitously, just as customized monetarism was giving way in Britain to a new phase in policy, characterized first by shadowing of the deustche mark and later by EMS membership.

A collection of essays, this book ranges in form from historical narrative, through economic philosophy, to a technical exposition of original empirical work. The first part is a fairly detailed, but nicely paced, description of the main economic events of the period. It begins with the crisis-ridden years of the last Labour government, and continues through the early hardships during Margaret Thatcher's first term, to the strong economic recovery under the second Conservative administration.

The next two parts provide a context for the remainder of the book, explaining the intellectual shift in policy-making circles (a shift that was not wholly coincident with the arrival of Mrs. Thatcher) and describing the trends and disturbances that affected the world economy during the late 1970s and most of the 1980s. In the final sections, estimated reaction functions and other statistical techniques are used in an attempt to discern how monetary and fiscal policies were in fact conducted during this period, and an assessment is made of their impact on the standard policy objectives (output, inflation, unemployment and external balance).

Of the conclusions Mr. Britton offers, two in particular stand out as especially topical. The first is his claim that the United Kingdom could have achieved disinflation at a significantly lower output cost had it entered the EMS at its inception in 1979. The second, related but less controversial, point is that the move to floating exchange rates, financial liberalization, and the abandonment of incomes policy made the behavior of the economy more difficult both to predict and to manage. With their popular reputation at an all-time low, this is a judgment that most of the economics profession in Britain would no doubt happily accept.

Hugh Bredenkamp

BOOKS *in brief*

Charles Schultze

Memos to the President

A Guide through Macroeconomics for the Busy Policymaker

The Brookings Institution, Washington, DC, USA, 1992, vii + 334 pp., $24.95.

Whether Charles Schultze wrote *Memos to the President* in some nostalgia for his days on the Council of Economic Advisers, in anticipation of the recent presidential election in November, or for the simple pleasure of edifying non-economists makes little difference. The result is a tidy primer on macroeconomic principles and their implications for public policy. The unique format of the book—a series of twenty-nine memoranda to a US president from a CEA chairman—was born in a flight of fantasy. "I imagined," Schultze explains, "a new president promising to devote an hour or so a week to learning about key economic relationships." However implausible that scenario may be, the straightforward Schultze does write his text to educate—if not the president then bureaucrats, journalists, and interested bystanders. With memos on subjects like "Monetary Policy: What It Can and Cannot Do," "Unemployment: Who, How Long, Why," and the intriguing "A Summary of These Memos and How They Differ from What Others Might Have Told You," it is hard to envision a policymaker—of any political stripe—not being helped by this book. To be sure, *Memos* makes no econometric or theoretical breakthroughs; nor does it dish up gossip on backcorridor economic policymaking in Washington. This book simply spells out the ABCs of macroeconomics in the US policy context—a limited alphabet perhaps, but one worth reciting.

Charles P. Oman and Ganeshan Wignaraja

The Postwar Evolution of Development Thinking

Macmillan Press, in association with the OECD Development Center, London, United Kingdom, and St. Martin's Press, New York, NY, USA, 1991, vii + 272 pp., $40 ($17.50 paper).

The debate over development thinking and development practice has taken on a new urgency, with much of Eastern Europe and the republics of the former U.S.S.R. joining developing countries in the search for the best way forward. At such a time, it is helpful to step back and review the theoretical highlights of post-Second World War thinking in the field of economic and social development, which is exactly what this book does. The survey is divided into two parts: the orthodox approach (capital accumulation and industrialization; dualism, agriculture-centered development and the green revolution; open-economy development and the neoclassical resurgence; and reformist development thinking) and the heterodox approach (the Latin American structuralist and dependency schools, and Marxist development thinking).

Peter Hooper and J. David Richardson (editors)

International Economic Transactions

Issues in Measurement and Empirical Research

National Bureau of Economic Research, Studies in Income and Wealth Vol. 55, University of Chicago Press, Chicago, IL, USA, 1991, xii + 499 pp., $75.

Flows of goods, services, and investment across national borders are becoming increasingly important to economic researchers and policymakers alike. Measuring these flows also poses many new problems, such as the measurement of trade in computer products, whose capabilities and prices have been rapidly changing. At the same time, the US Government has recently been devoting fewer resources to collecting, maintaining, and upgrading the quality of these data. This volume collects the papers presented at two conferences held in 1988 and 1989 that were designed to bring together the producers and users of data on US international transactions. These papers deal with measurement issues related to merchandise trade, the prices of traded goods and their implications for competitiveness, trade in services, foreign direct investment, and cross-country comparisons of the relationship between inputs and outputs. These papers make a useful contribution both in guiding efforts to improve the data's quality and in helping those who use the data to understand its limitations.

LETTERS

Population, agriculture, and the environment nexus in Africa

The interesting article by Kevin Cleaver and Götz Schreiber—"Population, Agriculture, and the Environment" (*Finance & Development*, June 1992) is a presentation of *Hamlet* that omits the Prince of Denmark. To discuss farmers, farms, and nature in sub-Saharan Africa and never mention the tropics is quite an accomplishment. In fact, coping with the tropics is the central problem of farming in sub-Saharan Africa.

The contrast in name between the temperate zones and the tropics is no accident. Tropical climates are not *moderate*. Rainfall is usually too much or too little, and one can be certain only of its unpredictability and violence. Life in most parts of the tropics takes on an infinite multiplicity of forms with fierce competition for survival. Thus, species adapt quickly to new opportunities.

The temperatures permit a much more rapid multiplication of many life-forms than in colder climates. The house fly, the spreader of bacillary dysentery and other diseases, takes 44 days to develop from egg to adult at 16 degrees Celsius but only 10 days at 30 degrees. Consider what this means in exponential growth of numbers! Parasites such as those causing malaria, which carry out part of their development within an insect vector, are also "ecothermic"—that is, the speed of their development and multiplication varies directly with the temperature.

The authors correctly talk about the problems stemming from the large dependence on women for work on the farms. They do not mention that most African farms still have to depend on human muscle power because the transition to ox or horse-drawn mixed farming is inhibited or prohibited because of the tsetse fly carrying the deadly trypanosomiasis. Where the fly is absent, there are innumerable other parasitic, infectious, nutritional, toxic, metabolic, and organic diseases that affect livestock.

Cultivated plants are threatened by weeds, parasitic fungi, insects, spider mites, eelworms, and virus diseases. After harvest, storage pests and rats move in. In some areas, millions of weaver birds attack crops. Gigantic swarms of desert locusts in Western and Eastern Africa and red locusts in Southern, Central, and Eastern Africa periodically pose a major threat to crops.

Not only are the farmer's crops and livestock damaged by tropical diseases and predators, but the farmer is as well. The average farmer over most of tropical Africa is infected by at least two different types of parasites. He or she may have had, or be currently subject to, debilitating attacks of malaria or schistosomiasis (bilharzia or liver fluke). Hook worms, roundworms, pinworms, and whipworms are widespread. Millions have filariasis spread by the bite of mosquitoes, onchocerciasis (river blindness spread by the bite of a black fly, or guinea worm from infected drinking water). It is hard for anyone from a temperate climate to have a real appreciation of what African farmers have to endure—it is somewhat like having to work day in and day out with the first stage of the flu.

The authors say that shifting cultivation in Africa was an appropriate response to "abundant land and limited capital." They overlook the central fact that tropical soils, with the exception of alluvial or recent volcanic soils, are poor, contain little organic material, and are severely damaged when exposed to the hot sun and torrential rains. The soil is soon exhausted by a few years of cropping. Shifting or seminomadic cultivation, when possible, is the appropriate response to this. More intensive farming requires a major structural transformation.

I appreciate that the authors were handicapped by the loss of institutional memory in the Bank that has occurred in recent years. I was the Economic Adviser on Africa during the years we were learning the fundamentals of the special problems of development in Africa. I distilled our experience in two books, *The Economics of African Development* (Praeger, 1967) and *The Tropics and Economic Development* (The Johns Hopkins University Press for the World Bank, 1976). I suggest that the authors of the article take advantage of these books, particularly of the latter, before they complete their forthcoming monograph.

Andrew M. Kamarck
Brewster, MA, USA

The authors respond to Mr. Kamarck:
Mr. Kamarck's work is well known to us, and he is correct that the difficult weather and soil conditions of the tropics is a constraint to agricultural development. Our monograph discusses this, while the two-page article in Finance & Development *emphasized the additional, less well-known constraints to agricultural development in Africa. These relate to the role of women, land tenure systems, the extraordinary rate of population growth, traditional fuelwood gathering techniques, and neglect of infrastructure, all exacerbated by poor government agricultural policy.*

This said, the school of thought represented by Mr. Kamarck has overemphasized, in our view, the climatic and soil constraints and neglected the other constraints to African agriculture that we have presented. African agriculture's success or failure will be not only a function of overcoming the natural constraints emphasized by Mr. Kamarck, but overcoming policy—social, infrastructure, as well as political constraints. That this can be done in the tropics is proven by the experience of a number of Asian and Latin American countries. These countries suffer many of the same natural constraints as does Africa. They have been able to overcome them. China's agriculture is now growing at 6 percent a year. India's agriculture is growing at between 3 and 3.5 percent a year. Thailand, Malaysia, and the Philippines, as well as Costa Rica, have had very successful agricultural sectors. We find in fact that despite the problems, tropical agriculture has some characteristics that can be turned to advantage. But in Africa, finding this advantage will require dealing with the additional issues that we have raised.

. . . and another view

Kevin Cleaver and Götz Schreiber round up the usual suspects when it comes to the triad between population, agriculture, and the environment. It is not until the last sentence, however, that one gets the feeling that the crime can be solved: "The local people need to be directly involved in formulating and implementing such plans."

Unfortunately, this is unlikely to happen until the criminal tinkering and meddling with African farmers and their environment, whose effects we see everywhere, by governments and institutions have been undone. Only then will we see any real prospect of development in rural Africa. What we have observed for the past thirty years is, to use René Dumont's phrase, misdevelopment.

Arthur J. Dommen
US Department of Agriculture
Washington, DC

INDEX 1992 VOLUME 29

Articles

Masood Ahmed & Lawrence Summers, *A Tenth Anniversary Report on the Debt Crisis*, September p. 2

Jahangir Amuzegar, *OPEC and a New Oil Order*, September p. 30

Rosemary Bellew, Laura Raney, & K. Subbarao, *Educating Girls*, March p. 54

Gita Bhatt, *Remote Sensing in Economic Development*, June p. 45

Robert Blake, *Challenges for Global Agricultural Research*, March p. 30

Mario Blejer & Adrienne Cheasty, *How to Measure the Fiscal Deficit*, September p. 40

Eduardo Borensztein & Peter Montiel, *When Will Eastern Europe Catch Up with the West?*, September p. 21

James Boughton, *The CFA Franc: Zone of Fragile Stability in Africa*, December p. 34

John Briscoe, *Poverty and Water Supply: How to Move Forward*, December p. 16

Rodolfo Bulatao, *Family Planning: The Unfinished Revolution*, December p. 5

Michel Camdessus, *Reflections on the IMF*, March p. 2

Marta Castello-Branco & Mark Swinburne, *Central Bank Independence*, March p. 19

Stijn Claessens, *How Can Developing Countries Hedge Their Bets?*, September p. 13

John Clark & Eliot Kalter, *Recent Innovations in Debt Restructuring*, September p. 6

Kevin Cleaver & Götz Schreiber, *Population, Agriculture, and the Environment in Africa*, June p. 34

Jaime de Melo & Arvind Panagariya, *The New Regionalism*, December p. 37

Mario de Zamaróczy, *The Reform of Senegal's Banking System*, March p. 14

Mohamed El-Erian, *Voluntary Market Financing for Latin America*, March p. 38

Gunnar Eskeland, *Attacking Air Pollution in Mexico City*, December p. 28

Robert Flood, *What is "Policy Switching"?*, September p. 33

Przemyslaw Gajdeczka, *Assessing a Country's Debt Burden*, March p. 44

Paul Glewwe & Gillette Hall, *Unorthodox Adjustment and Poverty in Peru*, December p. 10

Padma Gotur, *Bangladesh: Tackling the Problem of Poverty*, June p. 38

Pablo Guidotti & Manmohan Kumar, *Managing Domestic Public Debt*, September p. 9

Sanjeev Gupta & Karim Nashashibi, *The Fiscal Dimensions of Adjustment*, September p. 36

Karl Habermeier & Horst Ungerer, *A Single Currency for the European Community*, September p. 26

Daniel Hardy & Dubravko Mihaljek, *Economic Policymaking in a Federation*, June p. 14

Gordon Hughes, *Cleaning Up Eastern Europe*, September p. 16

Donald Keesing & Andrew Singer, *Why Official Export Promotion Fails*, March p. 52

Miguel Kiguel & Nissan Liviatan, *Progress Report on Heterodox Stabilization Programs*, March p. 22

Thomas Klein, *Innovations in Debt Relief: The Paris Club*, March p. 42

Desmond Lachman, *South Africa's Economic Challenges*, June p. 6

Timothy Lane, *Transforming Poland's Economy*, June p. 10

Bjorn Larsen & Anwar Shah, *Combatting the "Greenhouse Effect,"* December p. 20

Claire Liuksila, *Colombia: Economic Adjustment and the Poor*, June p. 40

Donald Mathieson & Liliana Rojas-Suarez, *Liberalizing the Capital Account*, December p. 41

Ali Mazrui, *The Economic Woman in Africa*, June p. 42

Mohan Munasinghe & Kenneth King, *Protecting the Ozone Layer*, June p. 24

Saleh Nsouli, Peter Cornelius, & Andreas Georgiou, *Striving for Currency Convertibility in North Africa*, December p. 44

Selcuk Ozgediz, *Managing the CGIAR*, March p. 32

Guy Pfeffermann, *Facilitating Foreign Investment*, March p. 46

Kerri Wright Platais & Michael Collinson, *Biotechnology and the Developing World*, March p. 34

Lewis T. Preston, *Responding to the Development Challenge*, June p. 2

George Psacharopoulos & Carolyn Winter, *Women's Employment and Pay in Latin America*, December p. 14

Michael Replogle, *Bicycles, Rickshaws, and Carts in Asian Cities*, September p. 46

Joanne Salop, *Reducing Poverty: Spreading the Word*, December p. 2

Stephan Schmidheiny, *The Business of Sustainable Development*, December p. 24

Luis Serven & Andrés Solimano, *Economic Adjustment and Private Investment*, September p. 43

Narendra Sharma & Raymond Rowe, *Managing the World's Forests*, June p. 31

John Shilling, *Reflections on Debt and the Environment*, June p. 28

Andrew Steer, *The Environment for Development*, June p. 18; and *The Road from Rio*, September p. 20

Lawrence Summers, *The Challenges of Development*, March p. 6

V. Sundararajan, *Central Banking Reforms in Formerly Planned Economies*, March p. 10

Grant Taplin, *Revitalizing UNCTAD*, June p. 36

Ranjit Teja, *Crisis, Recovery, and Transformation in India*, December p. 31

Peter Uimonen, *Trade Policies and the Environment*, June p. 26

Alexander von der Osten-Sacken, *New Directions for the CGIAR*, March p. 26

Laura Wallace, *MIGA: Up and Running*, March p. 48

Chorng-Huey Wong, *Reform of Monetary Policy Instruments*, March p. 16

Environmental Problems and Developing Countries, June p. 22

Population Patterns: Components of Change, December p. 9

Republics of the Former USSR: Vital Statistics, September p. 24

Women in the Workplace in Developing Countries, June p. 44

World Economy in Transition: *Recent Trends in FDI for the Developing World*, March p. 50

Book Reviews

Isher Judge Ahluwalia, *Productivity and Growth in Indian Manufacturing*, reviewed by Ashok Lahiri, December

Jagdish Bhagwati, *The World Trading System at Risk*, reviewed by Patrick Low, March; and *Political Economy and International Economics*, reviewed by Charles Collyns, June

A.J.C. Britton, *Macroeconomic Policy in Britain: 1974-87*, reviewed by Hugh Bredenkamp, December

Richard Cooper, *Economic Stabilization and Debt in Developing Countries*, reviewed by Richard Haas, December

Rudiger Dornbusch and Sebastian Edwards, editors, *The Macroeconomics of Populism in Latin America*, reviewed by Guy Pfeffermann, September

Jeffry Frieden, *Debt, Development, and Democracy*, reviewed by Claudio Loser, June

Alberto Giovannini and Colin Mayer, editors, *European Financial Integration*, reviewed by Manuel Guitian, June

Bimal Jalan, *India's Economic Crisis—The Way Ahead*, reviewed by Deepak Lal, September

Miroslav Jovanovic, *International Economic Integration*, reviewed by Michael Spencer, September

Azizur Rahman Khan and Rehman Sobhan, editors, *Trade, Planning and Rural Development*, reviewed by K. Subbarao, March

Paul Krugman, *Geography and Trade*, reviewed by William Easterly, December

David Laidler, *Taking Money Seriously*, reviewed by James Boughton, March

Robert Lawrence and Charles Schultze, editors, *An American Trade Strategy—Options for the 1990s*, reviewed by Patrick Low, March

Karen Lissakers, *Banks, Borrowers and the Establishment*, reviewed by Claudio Loser, June

Warwick McKibbin and Jeffrey Sachs, *Global Linkages*, reviewed by Steve Symansky, June

Ronald McKinnon, *The Order of Economic Liberalization*, reviewed by John Odling-Smee, September

Gerald M. Meier, editor, *Politics and Policy Making in Developing Countries*, reviewed by W. Max Corden, June

Paul Mosley, Jane Harrigan, and John Toye, *Aid and Power: The World Bank and Policy-based Lending*, reviewed by Richard Feinberg, June

Karen Mingst, *Politics and the African Development Bank*, reviewed by Stephen O'Brien, March

Peter Morici, editor, *Making Free Trade Work*, reviewed by Patrick Low, March

Alan Oxley, *The Challenge of Free Trade*, reviewed by Patrick Low, March

Michael Roemer and Christine Jones, *Markets in Developing Countries*, reviewed by Alan Tait, September

Georg Sorenson, *Democracy, Dictatorship and Development*, reviewed by Coralie Bryant, September

Roger Stone, *The Nature of Development*, reviewed by Bahram Nowzad, December

Paul Volcker and Toyoo Gyohten, *Changing Fortunes*, reviewed by Charles Dallara, December

E. Roy Weintraub, *Stabilizing Dynamics*, reviewed by Shahid Yusuf, June

L. Alan Winters and Anthony Venables, editors, *European Integration*, reviewed by Manuel Guitian, June

Courtesy of Finance & Development